Sullys Hill National Game Preserve - Narrative Report - 1969

# UNITED STATES DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE BUREAU OF SPORT FISHERIES AND WILDLIFE

NARRATIVE REPORT FOR
SULLYS HILL NATIONAL GAME RRESERVE
FORT TOTTEN, NORTH DAKOTA

AND

EASEMENT REFUGES OF DISTRICT NO. 2

CALENDAR YEAR 1969

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SULLYS HILL NATIONAL WILDLIFE REFUGE BENSON COUNTY, NORTH DAKOTA UNITED STATES FISH AND WILDLIFE SERVICE BUREAU OF SPORT FISHERIES AND WILDLIFE R 65 W LAKE DEVILS N N N 47\*54 47\*64 R 65 W FIFTH PRINCIPAL MERIDIAN DECEMBER, 1950 MINNEAPOLIS, MINNESOTA 3 R ND 81

#### I. GENERAL

# Description of the Area

The 1,674-acre preserve consists mainly of large, wooded terminal morains hills, located on the south shore of Devils Lake in northeast North Dakota. The largest of the hills was named for General Alfred Sully, who led a campaign against the Sioux in 1865.

The area, established as a national park in 1904, is rich in Indian and early military history. Several Indian butial mounds on the preserve are thought to be over 600 years old. Whattis now our big-game pasture provided logs and clay bricks for the building of Fort Totten (one mile west) in 1867. The fort is now a state historical park.

Primary emphasis in management of the preserve is placed on outdoor education and wildlife-oriented recreation. Public use during 1969 totaled 34,700 visits, most of which were for picnicking and driving the self-guided auto route through the 700-acre big-game enclosure. Summer big-game herds in 1969 totaled 37 bison, 29 elk and 30 white-tailed deer. The 60-acre Sweetwater Lake recreation area contains a 12-acre lake on which is kept a display flock of waterfowl consisting of whistling swans, two races of Canada geese, blue and snow geese, and newly acquired white-fronted geese. A variety of wild ducks and shorebirds are also present as are muskrats and beaver.

Also administered from Sully's Hill are Stump Lake NWR and the following twelve easement refuges which total approximately 28,000 acres.

Brumba Lake NWR Buffalo Lake NWR Johnson Lake NWR Lac Aux Mortes NWR Rock Lake NWR

Lambs Lake NWR Little Goose L NWR Silver Lake NWR Pleasant Lake NWR

Sibley Lake NWR Snyder Lake NWR Wood Lake NWR

# B. Weather

The year started out in a blast of snow with over twice the normal snowfall during January and February. Luckily for all involved, this initial blast was followed by less than half the normal precipitation during March, April and May. To look around the area, though, no one would believe it was a dry spring. Thawing first began on March 16 and soon resulted in

		Temper	atures	Precipitation				
	Max.	Ave. Max.	Min.	Ave. Min.	Precip.	Snow	Normal Precip.	
Jan.	27	(4.7)	-26	(-12.0)	1.25	18.2	.53	
Feb.	32	(18.5)	-28	(3.8)	1.24	13.7	.65	
Mar.	40	(24.8)	-16	(5.1)	.29	3.6	•77	
Apr.	68	(54.1)	1	(33.3)	.39	T	1.15	
May	95	(68.1)	29	(42.3)	1.31		2.11	
Jun.	79	(68.6)	32	(46.2)	3.17		3.36	
Jul.	97	(79.2)	45	(56.8)	2.42		2.57	
Aug.	98	(87.2)	47	(57.8)	.68		2.18	
Sep.	93	(71.7)	32	(46.9)	2.49		1.70	
Oct.	64	(48.1)	16	(31.3)	.98	1.1	1.07	
Nov.	62	(38.9)	3	(21.3)	.05	.6	.68	
Dec.	59	(24.5)	-15	(7.9)	.51	7.4	.52	

14.78 44.6 17.29

<sup>\*</sup> These records are from the official weather station maintained by the KDLR radio station in Devils Lake, 11 air miles NE of Sullys Hill. Actual temperatures are often 5-10° cooler at the preserve throughout the year.

widespread flooding over the area. Thanks to the extensive wetland drainage system the flooding caused much more damage than has occurred in past years, when marshes held the water and released it more slowly.

Summer started out unusually cool during June and didn't warm up fo nermal levels until the second week of July. A heavy frost June 23, caused extensive local crop damage. August was very dry but a 1.16" rain on September 4 eased the situation.

The first heavy frost of the fall occurred on October 8 and was followed by the first snowfall on October 10. Continued mild weather, however, kept the ground generally clear of snow until December 6 when the snow cover became permanent. The open fall allowed widespread pothole burning by area landowners.

# C. Habitat Conditions

1. Water Thawing began at the preserve on March 16. Sweet-water Lake was partially open on April 12 and was ice-free on April 19. Devils Lake was ice-free on April 25. The preserve was only slightly affected by the high runoff of the area. Some road-washing occurred at the east end of Sweet-water Lake.

The springs in the big-game enclosure continued to run all summer and on past freeze-up, providing plenty of drinking water for the animals. The Mauvais Coulee also continued to run throughout the year and has brought the level of Devils Lake to within 18" of the road level of highway 57. It could easily be that the highway will go under this spring.

Sweetwater Lake first froze over on October 27, but opened again three days later and did not freeze permanently until November 18. Half of Devils Lake was frozen by November 14 and the rest closed by November 18.

2. Food and Cover. With the low spring precipatation grasses got eff to a slow start. Growth, however, was excellent during the rest of the year and the range in the enclosure was in fine shape going into the winter. Hay production in Unit II was also slow in starting and required a second cutting to get the necessary winter supply for the big game. Approximately six acres of brush in the enclosure were moved to reduce competition with grasses.

Buffaloberry and Chokecherry production was about normal but the Juneberry crop was destroyed completely by the June 23 frost. Acorn production was almost zero.

As has happened occasionally in the past years, forest tent caterpillars were active in the wooded area along highway 57. Damage occurred to approximately 1000 acres of timber, most of which was adjacent to but not on the preserve. About 100 acres within the big-game enclosure and along the tour route were affected. Although unsightly, no permanent damage occurred and no treatment of the area was attempted. The infestation did arouse concern among the visiting public and would have been treated had it neared the recreation area. If the infestation is repeated in 1970, a cooperative effort may be attempted with North Dakota State University to aerially treat the area with a bacterial control.

#### II. WILDLIFE

# A. Migratory Birds

1. Geese. The captive goose flock presently consists of 21 giant Canadas, 3 small Canadas, 9 snows, 3 blues, and 2 white-fronts. In return for a whistling swan and ten geese, we are also wintering eight geese of four species for the Devils Lake School for the Deaf. One snow, two blues, and one white-front were also transferred fron the NPWRC in Jamestown. Including our four whistling swans the preserve's display flock now totals 42 birds, a net increase of 17 birds during the year. Our goal is to display a representative number of as many of the species of waterfowl native to this area as possible. Interpretive facilities will be added during 1970 to help teach waterfowl identification and ecology.

Five pairs of captive Canada geese nested on Sweetwater Lake (3 on islands, 1 on a raft, and 1 on shore) and another pair nested in the goose house. The pair in the goose house hatched only one gosling and one island nest and the one raft nest hatched producing eight more goslings. One gosling died during the summer.

When the geese were rounded up for the winter, seven Canadas were missing. The remains of one that may have falled prey to a pair of immature bald eagles were found along the lake. Since almost half of the Canadas are flyers and only a few of the adults and none of the goslings are banded, the ages of the six birds still missing are unknown. It is likely that some or all of them were shot while flying around during the hunting season. Hopefully, some of them migrated.

No wild geese used the preserve or the adjoining area of Devils Lake during the year. The first migrants observed passing over the area, however, were 300 Canadas and 100 blues and snows an April 6.

2. <u>Ducks</u>. The first migrants to arrive were four mallards on April 12, thirteen days later than in 1968. Spring migration peaked April 30 and had passed by May 23.

Two mallard broods with a total of 13 young (4, 9) were observed on Sweetwater Lake. Three mallard broods with a total of 16 young and a ruddy brood with 5 young were observed along the Sully's Hill shore of Devils Lake. A pair of wood ducks was often observed on Sweetwater Lake during the spring and early summer but no brood appeared.

The fall buildup began in earnest during the first week of August. A white-winged scoter observed along Devils Lake on August 22 and a black duck observed on Sweetwater Lake, October 30 are the first recorded observations of these species for this station. The variety and number of ducks remained high until the second week of November. Temperatures in the low teens accompanied by 40 mph. winds on November 13 forced on all but a few stragglers that stayed a few more days with our geese.

The 20-mile Brood Chronology Survey was run from Fort Totten to Warwick again in 1969. The route includes 60 water areas with basins totaling 445 acrea.

		Water Area	Broods Dabblers	seen Divers	Cor.	for vi	sibility Total	Young Coots Seen	Cor. Total Young
1967	7/13 8/16	352A	10 21	<b>5</b> 8	22 32	6 9	28 41 69	83 45	153 88 241
1968	7/18 8/16	265	12 6	7	34 10	n	45 10 55	28 21	78 36 114
1969	7/11 8/18	337 273	5	6 2	11 4	8	19 7 26	62 33	169 82 251

3. Whistling Swans. Of the three swans wintered with the goose flock last winter only one remained at the end of summer. One died of injuries received from dogs in the goose pen March 1 (3 of the 4 dogs were shot). Another swan apparently recovered from the crippling injuries that brought it to us in the fall of 1968 and disappeared after the molt.

During the fall three more swans, two adults and one cygnet, crippled by hunters were brought to us. The cygnet died a few weeks later during the first blast of near zero weather. A fourth swan with a mangled wing was captured by preserve personnel a few miles south of the preserve. (You can forget trying to catch even a crippled swan without an outboard motor!) The wing was amputated at the preserve. Our whistling swans now total four and all three of the 1969 cripples are in good shape and have adjusted to captivity.

Migrant swans were frequently observed flying over the preserve during the spring and fall but no swans used their usual Devils Lake feeding area along highway 57.

- 4. Coots. Coot-use-days for the year totaled 17,241, up considerably over the 600 use-days of 1968. This increase reflects the higher water level of Devils Lake and in turn the better habitat conditions in Fort Totten Bay during the fall. The first observation of 20 coots on April 30 was also the spring high. There were practically no birds present during the spring and even fewer during the summer. The fall build-up began with the arrival of 220 coots during the second week of August. They peaked at 750 on August 26 and then tapered off until the last one was observed on November 7. No coots used Sweetwater Lake.
- 5. Other Waterbirds and Shorebirds. Our first ring-billed gulls arrived on April 6, Franklingulls on April 25 and double-crested cormorants on April 30. A common egret was observed along the bay on June 5. Franklin's gull numbers began to increase in early July and peaked at 1200 on August 8. Northern phalaropes peaked at 300 on July 25 and Wilson's phalaropes peaked at 450 on August 22.

Western grebe use of Fort Totten Bay has been increasing over the last few years. This year their numbers began to increase in mid-July and reached a peak of 257 on August 22. They remained common throughout September and were last observed on October 2.

During early September several possible whooping crane reports along the west side of Deviis Lake were checked out by preserve personnel. No cranes were found but several common egrets were observed.

6. Mourning Doves. Doves are not abundant at Sully's Hill. The first migrants were observed April 15. A few pairs may nest in the shelter belts in Unit II.

### B. Upland Game Birds.

- 1. Sharp-tailed Grouse. The local population remains moderate and stable. One broody hen was observed on the hay unit July 28.
- 2. Gray Partridge. Local numbers are low. Only one partridge was observed on the preserve, and that one was first noticed just after dawn by a white-tailed doe that was in turn being watched by the manager and his wife. The doe was standing on the residence lawn watching the partridge as it walked across the lawn and around the house.
- 3. Ring-necked Pheasant. In this area the pheasant belongs on the rare and endangered list. One group of three hens was observed April 6 near the culvert plant along highway 57. The only pheasant observed on the preserve was a lone hen observed December 5 in the Sweetwater Lake recreation area.

# C. Big-Game Animals

1. <u>Bison</u>. At the beginning of the period the bison herd totaled 31 animals. A total of six calves were produced, two during the last week of April, two during the first week of May, and the last two during mid-May. This brought the herd total to 37 during the period of highest visitor use.

	Bulls	2	1		Cows	2	1	
Spring (169)	Mature	Yr.	Yr.	Calves	Mature	Yr.	Yr.	Calves
Spring '69.	/3~	3	7		12	3	3	
Directo (11	,5,3y	rs.)						
Births				5				1
Removed		-3			-3			
Dec. '69	3		_7	5	9	_3	3	-1
Spring '70	3	7~	54	T =	12 ~	34	11	

Herd productivity based on 12 mature cows was 50%. There were no losses due to disease or accident. Of the six calves the one heifer was vaccinated for Brucellosis on November 12.

Three two-year-old bulls and three mature cows were butchered and sold during the fall disposal. Weights of the dressed carcasses were as follows:

3 - 2½ yr. Bulls 546 484 Average 525 544

Average 530

3 - Cows: 11yrs. 486 10yrs. 540 Average 535 ? 578

Blood samples from all six bison tested negative for Brucellosis.

Supplemental feeding of hay and grain cubes is conducted three times per week from December through March. The cubes were made using preserve grain by Nakota Feeds, Devils Lake.

Sully's Hill Barley	7480#		
Purina Range Concentrate	1800#	\$5.70/100#	\$102.60
Molasses	588#	3.50/100#	20.58
Vitamin A	9#	1.00/#	9.00
Vitamin D	5#	.25/#	1.25
Grinding & Cubing		7.00/T	34.13
Delivery		2.25/T	10.97
Delivered Weight	9750#		\$178.53

Problem. Routine checks of the condition of the animals butchered disclosed the presence of a mummified fetus approximately 18 inches long in the uterus of one of the bison cows. Discussion of the case with two local veterinariams indicated three possible causes: old age, brucellosis, or inbreeding. Old age can probably be ruled out since the cow was only 11 years old which is more middle age than old age for bison. Brucellosis can be ruled out since the cow was vaccinated for this disease and the blood samples taken when she was shot tested negative. A reasonable possibility is that of inbreeding, especially in light of the fact that two of the three mature bulls are sons of the oldest.

With the possibility of inbreeding in mind, a check of the records pertaining to all three of our big-game herds was conducted. The following table lists all recorded introductions of
new stock to these Herds. Discussion of the condition of each
with respect to inbreeding is found with the respective herd
status report.

Species	Year	Number	Source
Buffalo	1918	6	Portland, Oregon
	1933	1 bull	Wind Cave Nat. Park
	1941	1 bul1	Fort Niobrara NWR
	1949	1 bull	Fort Niobrara NWR
	1952	1 bull	National Bison Range
	1956	1 bul1	Fort Niobrara NWR
	1959	1 bul1	Fort Niobrara NWR
Elk:	1917	15	Yellowstone Nat. Park
	1941	1 bull	Fort Niobrara NWR
	1944	1 bull	Fort Niobrara NWR
	1949	1 bull	Fort Niobrara NWR
	1956	1 bull	Fort Niobrara NWR
	1959	1 bul1*	Fort Niobrara NWR
Deer:	1917	4	Fargo, North Dakota
	1947	1 buck**	Camp Grafton, N. D.
	1952	1 buck***	Local

\* Poor quality animal shot in 1960

\*\*\* Locally caught as fawn and raised by manager's children.

As you can see from the above table, the last new bison bull was introduced in 1959. He is now 11 years old and since the past September has become a loner after losing at least one spectacular battle with his five-year-old son. No apparent physical harm was done to either bull, but the question is whether or not the older bull will regain his position with the herd and be effective during the next breeding season. If not, a home-grown bull will take over and the inbreeding will be even more intense. We must assume that the 11-year-old bull has been an effective breeder for the last nine years and that all females born in that time have in turn been bred by the same bull, or possibly one of his sons, each season since they matured.

The fact that there have been no apparent morphological indicators of inbreeding in recent years does not alter the definate fact that inbreeding has been common within the herd. Physiological changes that might not be outwardly apparent could easily be accumulating over the long period of years. These could be expressed as subtle changes in organ size or weight, as metabolic changes, or in other ways that slowly change the nature of the beast.

Recommendations have already been made concerning acquisition of new stock.

<sup>\*\*</sup> Tame

2. <u>Elk.</u> At the beginning of the period the elk herd totaled 22 animals. During the spring seven calves were produced, bringing the herd total during peak visitor use to 29. It is believed that one cow had twin calves. If so, then productivity based on ten mature cows was 60%.

During the fall disposal six yearling or spike bulls were butchered and sold. Carcass weights were obtained on three of these animals, 216, 234, and 246 pounds. No animals were lost to disease or accident. The period ended with 23 elk in the herd.

	Bulls	Bulls	Cows	Cows	Calves
Spring '69 Births	2(6,9)	rs) 7	10	3	7
Removed		-6			
Dec. '69	2	1	100	3	7

Problem: Inbreeding within the elk herd may be building up to future problems. Presently there are no observed problems, but as can be seen from the table on the preceeding page, there have been no additions of new animals since 1956. The male calf introduced in 1959 cannot be counted since it was shot the following year as a yearling before it was old enough to breed. All three of the bulls that are now mature are animals produced here. As with the bison, this is a potentially bad situation.

3. White-tailed Deer. An aerial census 1/8/69 indicated a herd number at that time of 24. On March 3 a deer was found dead near the corral after being gored by a bison. A deer killed by dogs was found on April 1 and one of the dogs shot. Another deer apparently killed by dogs was found on April 17. This brought deer numbers to 21 going into the fawning season. Eight deer were removed during the fall disposal and donated to the Devils Lake School for the Deaf. Of the eight removed, there were four bucks (ages 1½, 2½, 3½,5½) and four does (ages ½, ½, 2½, 3½,).

During an aerial census 2/3/70, 18 deer were observed. Assuming 80% observed, the present winter population numbers 22. Considering the animals removed and the 1/8/69 census and assuming no other losses, this indicates a fawn production of approximately nine in 1969.

Approximately 5-10 other deer take refuge in Unit II and the Sweetwater Lake recreation area. Year-round uncontrolled hunting of the reservation lands around the preserve by local Indians puts severe pressure on the local deer population.

Problem: Inbreeding within the captive deer herd is expressing itself in at least one morphological change concentrated by the herd's restricted gene pool. Better than half the deer now have tails that are black on the dorsal surface, a frequency believed to be much higher than occurs in the wild. From the table on page 9, it can be seen that only two bucks have been introduced into the herd in the 52 years since the original four deer were released in 1917. What other unnoticed changes are occurring is open to speculation. Our black-tailed white-tails, however, are not truly representative of the species as a whole.

## B. Small Mammals.

- 1. <u>Muskrats</u>. Muskrats were relatively plentiful in Sweetwater Lake. During early November before freeze-up as many as 12 could be seen at one time during daylight hours. With no house-building materials available all dens are bank dens. Two muskrat houses are present on the small area of refuge marsh in Fort Totten bay of Devils Lake south of highway 57.
- 2. Mink and Weasels. No animals were observed, but mink tracks are occasionally found around Sweetwater Lake.
- 3. Beaver. Two young beaver were live-trapped from the Sheyenne River by WAE Zieman and released into Sweetwater Lake in September. They soon took over an old shoreline lodge, restored it to their needs, and set about stocking the pantry. Under careful control it is hoped they will be compatible with the heavy visitor use of the Sweetwater Lake recreation area and will provide interpretive possibilities for the public.
- 4. Raccoons. These nocturnal trash-can-raiders and duck-nest-destroyers are still abundant. Though seldom seen, they continue to empty trash cans in the recreation area and practically eliminate shoreline waterfowl nesting at Sweetwater Lake. There were no removals during 1969.
- 5. Foxes. Tracks and fall sightings indicate a relatively high number of red foxes present in the big-game unit. With the foxes at night and the magpies during the day offal from the big-game disposal is quickly cleaned up. No gray foxes were observed.
- 6. Skunks and Badgers. None were observed.
- 7. Rabbits and Hares. Cottontail numbers are quite low with only occasional sightings of a few individuals living around headquarters and the boneyard. No snowshoes were observed but their tracks were occasionally found in the woods. No jack-rabbits were observed.

- 8. Squirrels. Both gray and fox squirrels are abundant with gray squirrels being observed somewhat more frequently.
- 9. Woodchucks. Woodchuck numbers were lower than 1968 with only a few sightings around headquarters and near an active den in the recreation area.
- 10. Mice. A concerted attack using anticoagulant poison during the  $\overline{\text{fall}}$  eradicated a bad mouse problem in the barn. The presence of stored grain and the deteriorating concrete floor had encouraged a mouse paradise.

# E. Predaceous Birds.

- 1. Eagles. One adult bald eagle was observed March 21. Two immature bald eagles, first observed October 23, hung around Sweetwater Lake until November 8. The remains of one of our resident Canada geese that may have fallen prey to the eagles were found on the lake shore. On at least two occasions the eagles were seen to harass the migrant ducks concentrated on the lake. They may have been successful in capturing cripples that made it into the preserve. Another single immature bald eagle was observed on November 25.
- 2. Ospreys. Two ospreys were observed along the Devils Lake shore of the preserve on May 2. This was the first recorded observation of this species at the preserve.
- 3. <u>Hawks</u>. Hawks commonly observed during the summer months were the red-tailed, marsh, and sparrow hawks. During the fall several sharp-shinned hawks were also observed.
- 4. Crows. The first migrant crows were observed March 19 and the largest spring flock numbered 80 on April 7. A large fall flock of approximately 400 was present for several days during the first week of October. As was the case in 1968, two crows are again wintering near the corral.
- 5. Magpies. Magpies are year-round residents most common during the fall and winter. Peak numbers occur during the fall animal disposal. As many as seven or eight are observed at one time feeding on a pile of offal.

#### F. Other Birds

Until 1970 no official bird list for Sully's Hill had been

published and records were scattered. A list of 266 species likely to be observed at the preserve, including 165 species already recorded, is now working its way through the Government Printing Office. The following species are believed to have been new records during 1969.

5/2 Osprey (2) 10/30 Black Duck (1) 8/22 White-winged Scoter (1) 12/30 Purple Finch (6)

The annual Christmas bird count was conducted December 30. A total of 238 birds of 16 species was observed.

Sharp-tailed Grouse	24	Black-capped Chickadee	18
Gray Partridge	11	White-breasted Nuthatch	4
Rock Dove	30	House Sparrow	12
Hairy Woodpecker	3	Purple Finch	6
Downy Woodpecker	5	Pine Grosbeak	24
Blue Jay	8	Common Redpol1	81
Black-billed Magpie	7	Oregon Junco	1
Common Crow	2	Snow Bunting	2

## G. Fish.

Going into freeze-up Sweetwater Lake had a high population of fathead minnows and a lower number of sticklebacks. Before they froze over, several small air holes kept open by the minnows supplied an easy fish dinner for magpies and a variety of small mammals.

#### H. Reptiles and Amphibians

Painted turtles were common in Sweetwater Lake. Plains garter snakes were frequently observed and occasional observations of red-bellied snakes were reported.

#### I. Disease

No disease outbreaks occurred during 1969. One case of a mummified fetus in a bison cow is discussed in the section on bison herd status, page 8. The one heifer bison calf of 1969 was vaccinated for Brucellosis on November 12. All butchered animals were blood tested for Brucellosis and all tests were negative.

# III. Development and Maintenance

# A. Physical Development

In addition to many hours spent on snow removal, routine vehicle maintenance, litter cleanup, and everyday maintenance, the following noteworthy developments were accomplished.

# 1. Headquarters Area

- a. Office-shop Building. Office, shop, and bathroom interiors painted.
- b. Quarters #1. Exterior and basement floor painted; bathroom retiled with ceramic tile and painted by Devils Lake Paint & Glass; rain gutters repaided and soldered.
- c. Quarters #2. Combination windows installed upstairs; garage interior sheetrocked, exterior painted, and concrete apron poured.
- d. Stairway built in machine shed to replace ladder.
- e. Surplus overhead door from Des Lacs NWR installed in barn (completely unsatisfactory and should be replaced with fiber-glass door.)
- f. Old goose wintering pen torn down and rebuilt.
- g. East shelter building mouse-proofed and Devils Lake Wetlands Office grass seed and warehouse material transferred for storage.
- h. Large elm in office yard was braced in an attempt to save the tree from splitting.
- i. Highway 57 right-of-way reposted.

#### 2. Public Use Facilities

- a. Recreation area toilets and shelters cleaned with fire pumper and men's toilets painted.
- b. A number of large dead elms and other trees were removed from the recreation area.
- c. Self-guided Nature Trail. Two thirds of a mile of trail was laid out, brushed, mowed, and some directional signs placed (will be extended to 1 mile and interpretive signs added in 1970).
- d. Temporary chain gate installed at entrance to recreation area (permanent steel gate now being constructed.)
- e. Leaflet dispenser rebuilt and placed along tour route.

## 3. Equipment

- a. TD-6 roll bars built and mounted.
- b. John Deere tractor roll bar built and mounted, seat belt installed.
- c. Dodge stake dump seat belts installed.
- d. Engine of #2 jeep overhauled.

# B. Plantings

- 1. Aquatics and Marsh Plants. None
- 2. Trees and Shrubs. None
- 3. Upland Herbaceous Plants. None.
- 4. <u>Cultivated Crops</u>. Thirty acres of barley were planted in Unit II by permittee Howard Jabs. The yield was 40 bushels per acre. The refuge share is used for goose food and big-game cubes.

# C. Collections and Receipts.

None

# D. Control of Vegetation

- 1. Poison Ivy. Spot treatment using 2,4-D was carried out on plants in the recreation area frequented by visitors.
- 2. Field Bindweed. The 30-acre cropland in Unit II was treated by permittee Jabs using 2,4-D to reduce competition with barley.

A complete summary of herbicide use is found on NR-12.

# E. Planned Burning

In order to reduce blue grass and encourage native species an attempt was made to burn the 160-acre grazing area in Unit II. Due to the over-grazing in 1968 and earlier years, sufficient material was not available to carry the burn and it failed. Only about 10 acres were burned. Grazing was curtailed in 1969 and there should be sufficient carry-over for a good burn in 1970.

# F. Fires

December 5th a fire started by Indians burning brush at a local dump was neglected and spread into the marsh of Fort Totten Bay south of highway 57. Approximately 15 acres were burned of which five acres were preserve property. BIA and preserve personnel cooperated in contolling the fire. Only marsh vegetation was effected and there was no financial loss. If,

however, the fire had jumped the gravel road south of highway 57, it would have been quickly swept the length of the bay by the high winds to within a short distance of preserve head-quarters.

#### IV. Resource Management

- A. Grazing. None
- B. Haying.

Due to the low spring precipitation hay production got off to a slow start and required a second cutting to get the necessary winter supply for the big-game. Unit II was haved by permittees Howard Jabs, Bjarne Knutson, and Harold Belcher and produced 18 stacks. The hay meadow in Unit I was cut by Howard Jabs and produced 660 bales. The preserve's 1/3 share delivered to the corral totaled six stacks and 220 bales or 57 of the total 170 tons.

- C. Fur Harvest. None
- D. Timber Removal. None
- E. Commercial Fishing. None
- F. Surplus Animal Disposal.

All surplus animals are disposed of as butchered carcasses sold to local service clubs and organizations only. They are field-dressed by preserve personnel and delivered to the desired processor in Devils Lake or picked up at the preserve by the buyer. Prices this year were \$320 for bison and \$120 for elk. This was a price increase of 33% over 1968, but aroused only one indirect complaint from a buyer. Deer carcasses are donated to local institutions.

#### 1. Bison.

10	yr.F	Dakota Rifle & Pistol Club Fort Totten Days Inc.	540#	160.00 320.00
				160.00
?	F	Bottineau Wildlife Fed.	578#	160.00
		Wolford Wildlife Club		160.00
11	yr.F		486#	160.00
				320.00
	•			320.00
				\$320.00
	2	2 yr.M 2 yr.M 2 yr,M 11 yr.F	2 yr,M S. D. State U. Wildlife Club 2 yr,M Minot Knights of Columbus 11 yr.F Buffalo L. Sportsman's Club	2 yr.M S. D. State U. Wildlife Club 546# 2 yr,M Minot Knights of Columbus 544# 11 yr.F Buffalo L. Sportsman's Club 486#

11/9	1 hide	R. Thurman, Ft. Yates, N.D.	5.00
11/13	1 head	Dr. T. Zimmerman, Seattle, WA	20.00
	1 hide	11 11 11	5.00
1/6	1 hide	R. Lybeck, Devils Lake, N.D.	5.00

Total \$1955.00

2.	Elk	ALC: PERSON			
11/5	1	1 yr. M	Devils Lake Elks Club	246#	120.00
	1		Lehr Wildlife Club		120.00
11/7	1/2	1 yr. M	Nelson Co. Wildlife Club	216	60.00
	1/2		Warwick Rod & Gun Club		60.00
11/11	1	1 yr. M	Maddock Wildlife & Rifle Club	234	120.00
11/13	1	1 yr. M	Fish Lake Wildlife Club		120.00
	1	1 yr. M	Sheyenne Wildlife Club		120.00
A PARTY OF THE PAR	6		(Ave	.232#	720.00

11/9	2 hides	R.	Thurman,	Ft.	Yates,	N.D.	5.00
							Total \$725.00

3. <u>Deer</u>. During the fall eight deer, four bucks and four does, were butchered and donated to the Devils Lake School for the Deaf.

# V. Field Investigation or Applied Research

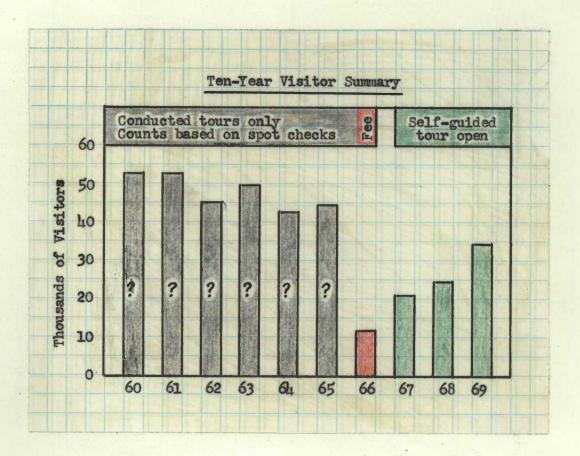
## A. Progress Report. None

#### VI. Public Relations

## A. Recreational Uses.

With the status of the American bison, elk, and white-tailed deer no longer in any doubt, Sully's Hill was almost closed during 1965. The resulting outcry of public opinion effected a reevaluation of Sully's Hill, and resulted in the preserve's continuation based largely on its public use. Management emphasis has now switched from chiefly preservation to emphasis on outdoor education and wildlife-oriented recreation. A definite measure of the success of this new management is the quantity of visitor use in close conjunction with the quality of the educational-recreational opportunities provided.

Total recreational visits for the preserve during 1969 were 34,760, an increase of 42% over 1968. The graph on the following page illustrates the recreational use load over the past ten years.



It is strongly felt that although the figures prior to 1966 may indicate use trends, they are unrealistically high. Prior to 1966 the prime recreational use of the preserve was picnicking and the limited physical facilities at that time could not possibly have served the numbers recorded. Also, the numbers were based on spot checks rather than automatic traffic counters.

During 1966 the prime use was still picnicking, but Sully's Hill was designated a fee area (1966 only) and much more accurate records were kept. Throughout these years tours of the biggame enclosure were limited to those conducted personally by preserve personnel and were thus necessarily low.

In 1967 a four-mile self-guided auto tour route through the enclosure was opened and quickly surpassed picnicking as the preserve's chief recreational attraction. Approximately 25,000 or two thirds of the visitors during 1969 toured the enclosure. A large number of these were people from the local area who drove out solely to see the animals and enjoy a leisurely drive.

It is felt that visitor use during 1969 was the highest we have ever had regardless of the earlier statistics. An automatic traffic counter in operation during part of 1968 and throughout the 1969 season has provided much more accurate visitor figures.

# 1969 Summary for Primary Visitor-Use Months

	April	May	June	July	Aug.	Sept.	Oct.
Visitors:	500	3000	5000	12,500	7,900	4,600	1,970
Peak :	. 50	800	725	3,200	1,350	650	180

Even now the figures are probably too high. For years the expansion factor for car counts at Sully's Hill has been based on an assumed factor of 4.5 visitors per car. While this may be an accurate figure, we plan to make several checks during 1970.

The visitor load is naturally concentrated on weekends and occasionally overcrowds the preserve. On Sunday, July 27, the last day of the annual three-day Fort Totten Days Indian celebration, 3,200 people crowded into Sully's Hill, sorely overtaxing the facilities. The high visitor use of the tour route on such crowded days understandably drives the animals to the more secluded areas of the enclosure. This in turn frustrates and disappoints many visitors who expect the animals to be out where they can be seen. Common sense (common to people of our backgrounds, but not necessarily common to the visitor) should tell the visitor not to expect the animals to be grazing along a busy road during midday. Nevertheless, failure to see bison or elk often sours a visit to the preserve.

Several projects are underway to alleviate this problem. One solution would be the acquisition of an 800-acre tract of open, rolling USDA grassland adjacent to Unit II and the transfer of bison to the area. This possibility is being explored, but even if it becomes fact, it will take time for development of facilities.

Our efforts in Unit I are primarily aimed at diversifying visitor use by providing more self-guided, interpreted facilities.

- 1. Nature Trail. During the summer of 1969 two thirds of a mile of self-guided nature trail was laid out, brushed, and mowed. During 1970 the trail will be lengthened to one mile and interpretive signs will be added.
- 2. Waterfowl Observation. During the fall additional geese and swans were added to the resident flock to increase the var-

iety and number. Development of observation areas along Sweetwater Lake and provision of interpretive facilities stressing waterfowl identification and ecology are planned for 1970.

3. Native Grass Identification. A native grass demonstration area is planned that will include interpretive materials covering grass identification and prairie ecology.

# 4. Preserve Literature.

a. Preserve Leaflet. A new leaflet was designed and a mockup submitted to regional office during 1969.

b. Auto Tour Leaflet. The present tour leaflet will be redesigned to explain more about the animals when they are seen, and ease the pain when they are not seen by putting more emphasis on other aspects of the tour.

c. Bird List. A checklist will be provided (submitted to RO 1/70) and birdwatching encouraged.

In addition to these projects the two preserve signs along highway 57 and the painted-rock entrance sign are being replaced. Designed during 1969 and on order from the regional sign shop are two new highway signs, a large new entrance sign, and four new directional signs. The latter will be placed on BIA property in Fort Totten and should end the confusion experienced by visitors trying to find the preserve entrance.

# B. Refuge Visitors

Frequent visitors included Vic Hall. Jim Heinecke, and Omer Swenson from the Devils Lake Wetlands Management Office; GMA Vic Blazevic from Devils Lake; and BIA and OEO personnel from Fort Totten.

#### Other Visitors:

Date	Name	Address	Purpose
4/22 5/22 6/19 6/27 7/1 7/9 7/16 7/31 9/11-12 10/7 10/8	Carl Stephen John Winship Lyle Miller Bill Brandvic Richard Frye NDSU Entomologists John Winship John CArlsen Dave Gilbert Bud Hill Clair Rollings	NDSU, Entomol Hept. NDSU R. O. Pilot-Bio. RO, Asst. Reg. Sup. Madison WO, S.D. J. Clark Salyer NWR RO, Staff Spec.	Waterfowl census Safety Insp. Tent Caterpillar Pr. Collect Tent Cater. Test Bacillus spray Brood survey Inspection Manager orient. Manager Orient. SYM inspection
		RO, Staff Spec. NDSU State Entomol.	SYM inspection

10/10	Richard Frye	NDSU, Entomol. Dept.	Coll. Tent Cat. egg
10/21-23	Barbara Holden	John Hopkins Univ.	Swan Mig. study
10/22-23	John Winship	RO, Pilot-Biologist	Waterfowl census
10/22-23	Dick Johnston	RO, Engineer	Waste treat. fac.
11/3	Jerry Wolsky	Arrowwood NWR	Return TD-6
11/12	Dr. R W Prior	Veterinarian, D.L.	Bison vac.
11/26	Rus Nylen	Warden NDGF, New Rkfd.	Crippled Swan
12/1	Bill Bair	BSF&W Area Bio, Towner	Wildlife Inv. plan
12/4	Bill Hesselbart	Arrowood NWR	Pickup Airboy motor
12/4	Dick Ackers	FHA, Jamestown	Rental resurvey

# C. Refuge Participation

1/10	Gilbert attended N.D. Wildlife Conference at Bismarck.
1/16	Gilbert conducted tour of enclosure for 20 DLHS. girls.
1/22	Gilbert - 5 minute interview on KDLR radio, D.L.
4/2-3	Gilbert attended wetlands meeting at Watertown, S.D.
4/7-25	Gilbert attended Arden Hills supervisory training, Minn.
9/15	Goeke - biology class tour (26) St. James HS New Rockford
9/16	Goeke & Heinecke (Devils Lake WO) Warwick Garden Club tour. (15)

In addition Manager Gilbert was active in the Devils Lake Lions Club and the Civil Air Patrol. Biological Technician, Nelson is active in the International Order of Odd Fellows and the Sons of Norway, both in Devils Lake.

# D. Hunting. None

#### E. Violations.

No violations were prosecuted by Sully's Hill personnel. On On several occasions late "picnickers" had to be ousted from the recreation area after dark. A gate installed at the entrance to the picnic area and locked at dark ended this problem.

One trespass violation on September 15, involving two Devils Lake youths who drove around a locked gate and up onto Sully's Hill, resulted in a warning and a sincere promise of parental discipline. (See photo section.)

One week later a speeding car driven by a local 15-year-old Indian boy smashed into a tree near Sweetwater Lake. (See photo section) No one was injured, no preserve property damaged (strong oak), and the driver was turned over to reservation police at Fort Totten (no action taken). An interesting, and ominous, footnote is that Indians are not required to have a driver's license of any kind to operate a vehicle within reser-

vation boundaries, which includes Sullys Hill, even on state roads. Most of the Indians do not have licenses and the accident rate on the reservation is high.

Animal tresspass on Unit II continues to be a problem. The fences are repeatedly cut each winter to allow Indian ponies to enter and forage.

# F. Safety

1/20 Gilbert and Nelson attended defensive driving course conducted at the Devils Lake WO by Regional Safety Officer, Lyle Miller.

4/14 Nelson crushed the tip of his right ring finger while mounting the roll bars on the TD-6. (accident report 5/1/69) No time was lost.

6/19 Station safety inspection with Lyle Miller.

6/26 NYC Darrell DuBois cut his right foot with an ax while clearing storm damage. He received approximately 50 stitches at the Public Health Service Clinic at Fort Totten. X-rays showed he also had a slight chip on a bone of the big toe.

8/11 NYC's Yankton and Longie were treated at the Public Health Service Clinic for bee stings.

No regular safety meetings were conducted. With the constantly changing NYC personnel and BIA general assistance (welfare) men most safety items were better handled on a day-to-day basis. Hazards were discussed as each project was begun or new equipment operated.

A number of large dead trees were removed from the recreational area. Roll bars were installed on the TD-6 and John Deere tractors and seat belts were installed in the Dodge stakedump truck. A stairway was built in the machine shed to replace the ladder previously used.

At the end of the year Sully's Hill has gone 1,842 days without a lost-time accident to Bureau employees. This does not include NYC or BIA general assistance workers since they are funded by OEO and the Department of Labor and are controlled by the BIA at Fort Totten.

#### VI. Other Items

# A. Items of Interest

Sullys Hill has again survived the throes of a change of managers and is now involved in an administrative adoption by the Devils Lake Wetlands Management Office. Under the new arrangement the two offices will be based at Sullys Hill with the preserve serving as a sub-unit of the wetlands office under the wetlands manager.

Manager Gilbert transferred August 15 to the new Madison WMO, Madison, South Dakota, where he is the wetlands manager. Manager Goeke transferred to Sullys Hill September 8 from Sherburne NWR, Minnesota, where he was assistant manager.

In recognition of his performance and increased responsibilities Biological Technician Nelson was promoted from GS-5 to GS-6 on September 22. His value to a new manager cannot be overstated.

# B. Credits

Goeke - Body of report, photographs, and report assembly.

Nelson - NR forms and provided answers to numerous questions about the year's activities.

Mary Pake, Devils Lake Wetlands Management Office - Typing.

The cover photograph shows the preserve's 9-year-old elk bull and part of his herd.

# NORTH DAKOTA EASEMENT REFUGE DISTRICT #2

Lake Alice (Lac Aux Mortes) Pleasant Lake

Brumba Lake Rock Lake

Buffalo Lake Sibley Lake

Johnson Lake Silver Lake

Lamb's Lake Snyder Lake

Little Goose Lake Wood Lake

# 1969 Operations and Water Conditions

Management on the twelve easement refuges is limited to maintaining wetland habitat for waterfowl production and migrational use and control of hunting and trapping. Facilities are unchanged from 1968. With the exception of Lake Alice no water control was exercised on any of the refuges during the year. Unusually heavy runoff brought all eleven of the refuge lakes on the Mauvais Coulee to well over spillway level during the spring. Only Pleasant Lake, which is not on the Mauvais Coulee, did not reach spillway level. The coulee continued to flow throughout the summer and was still flowing under the ice at Lake Alice in December.

<u>Lake Alice</u>: Water right level, 1443.0 ms1.; Operational level (summer), 1442.5.

With the control gates wide open the water level rose from a winter level of 1440.2 to a high of 1446.2 in late April and did not receed to the summer operating level of 1442.5 until the middle of August. Rushes piled against the structure by flood waters were removed primarily as a public relations effort and to facilitate any flow they may have been restricting.

The Elsperger dike on the northeast side of the Duck Road was broken by Joe Hoistad, a landowner east of Chain Lake, in an attempt to relieve flooding on his property. Water was still flowing into Lake Alice through the opened dike and road culvert in December. Another privately controlled dike was breached by flood waters approximately 100 yards south of the control structure. This, also, does not affect the Bureau's water right but will, unless repaired, result in flooded cropland when Lake Alice reaches flood level in the future. The ditch dug in 1967 through the east bank between Lake Alice and Chain Lake still has not been plugged. It did serve to empty a great deal of flood water from Chain Lake into Lake Alice during the spring and early summer.

After replacement of several damaged side seals, the control gates were closed on September 23 with the water level at 1441.0. The water rose slowly back to 1441.3 by the time the gates were opened on October 24 and then dropped to 1440.6 by freeze-up in mid-November. This level is almost one foot below the originally proposed winter level of 1441.5 and reflects pressure exerted by the local water board and in turn the State in anticipation of recurring flood conditions in the spring of 1970.

Based on USGS stream flow measurement near Cando, North Dakota, Lake Alice received a total inflow of 100,765 acre-feet of water and had an outflow of 90,027 acre-feet.

# 1969 Lake Alice Impoundment Data

# Monthly Minimum

	Elev. (ft.msl.)	Area (acres)	Capacity (acre-ft.)
Nov. '68	1440.2	1640	1900
April '69	1445.5	Not avail.*	Not avail.*
May "	1445.0	11 11 11	
June "	1443.8	11 11 11	" " "
July "	1442.8	3496	8564
Aug. "	1441.8	2776	5428
Sept. "	1441.0	2200	3380
Oct. "	1441.0	2200	3380
Nov. "	1440.6	1920	2640

# Monthly Maximum

		Elev. (ft.msl.)	Area (acres)	Capacity (acre-ft.)
Nov.	168	1440.2	1640	1900
April	169	1446.2	Not avail.*	Not avail.*
May	**	1446.1	11 11 11	11 11 11
June	11	1445.0	11 11 11	11 11 11
July		1443.8	11 11 11	11 11 11
Aug.	**	1442.8	3496	8564
Sept.	11	1441.8	2776	5428
Oct.	11	1441.3	2416	4148
Nov.	11	1440.6	1920	2640

<sup>\*</sup> Requested from R.O. Engineering since our tables go only to 1443. elevation.

Physical Condition of Water Control Works

Refuge	Type Structure	Condition
Lake Alice	Radi@al gate	Excellent & functioning well
Brumba Lake	Concrete Stop-log	Good & functioning well
Buffalo Lake	Rubble-masonry spillway	Good & functioning but super- seded by state controlled structure since 1968.
Johnson Lake	Clay plug	Good & still functioning well
Lambs Lake	Rubble-masonry spillway	Deteriorating but still functioning.
Little Goose Lake	Natural spillway	i dire of officing •
Pleasant Lake	Rubble-masonry spillway	Repaired & seeded over, functioning well.
Rock Lake	Concrete stop log	No longer used.
Silver Lake	Rubble-masonry spillway	Partially removed & no longer functioning.
Sibley Lake	Natural spillway	Tongor Turo etoning.
Snyder Lake	Rubble-masonry spillway	Deteriorating but still functioning.
Wood Lake	Rubble-masonry spillway	Good & still functioning.

1969 Water Depth on Easement Refuges

	Outlet Height	Sept. '68 April '69	Sept. 169
Brumba Lake	4111	42" 42"	18"
Buffalo Lake	Unknown	83" 123" (6/5)	11011
Johnson Lake	None	71" 83"	68 <sup>11</sup>
Lambs Lake	None	45" . 65"	5411
Little Goose Lake	116"	9811 11611	106"
Pleasant Lake	42"	22" 36" (6/5)	32"
Rock Lake	59"	52" (Oct.) 95"	4011
Sibley Lake	None	43" 73"	4811
Silver Lake	Unknown	30" (est.)52"(est.)	36" (est.)
Snyder Lake	131"	111" 149"	110"
Wood Lake	76m	72"(est.) 76"	60"(10/6)

# Physical Development

Replacement posting was conducted on all easement refuges prior to the opening of the waterfowl hunting season. Approximately 30 signs and 25 posts were replaced.

Lake Alice. A water depth guage was installed at the control structure, doing away with the tape measure method of checking water depth. Channels were cut in the control structure's catwalk support beams to allow full opening of the radial gates without damage to the side seals. Previously damaged seals were replaced on two gates.

Buffalo Lake. A concrete spillway was built by the state in front of the outlet culvert. This has raised the lake level approximately four feet above normal and created a good marsh at the north end of the lake. The Bureau's water right is not affected since higher lake levels have resulted.

#### Wildlife

Waterfowl. Waterfowl use of the refuges was generally down from previous years. This was probably a result of dispersal due to the abundant water in the area rather than a reflection of population numbers.

No attempt was made to estimate (guess) the waterfowl use figures for the easement refuges. Due to the limited manpower, the long distances involved, and operational needs at Sully's Hill, census information was very spotty and entirely inadequate to provide reliable use estimates.

The following observations are worthy of note:

- 4/12 10,000 blue and snow geese, 2,000 small Canadas, and 200 big Canadas at Lake Alice.
- 9/23 2,000 pelicans at Lake Alice.
- 10/20 40,000 blue and snow geese at Snyder Lake (large numbers present for  $1\frac{1}{2}$  weeks previous.)
- 10/23 Aerial census of easement area following large migration on 10/21 totaled 13,000 blue and snow geese, 4,000 Canadas and 2,300 whistling swans.

Breeding Pairs and Lone Males (Ducks)

	1965 (5/19)	1966 (5/17)	1967 (5/24)	1968 (5/21)	1969 (5/22)
Lake Alice	229	161	142	428	157
Brumba Lake	23	23	24	13	18
Buffalo Lake	36	38	17	55	40
Johnson Lake	55	49	52	54	41
Lamb's Lake	26	27	44	75	39
Little Goose Lake	9	6	10	11	5
Pleasant Lake	31	51	13	55	41
Rock Lake	102	151	124	147	69
Sibley Lake	67	57	44	93	63
Silver Lake	30	56	65	130	16
Snyder Lake	59	85	22	74	12
Wood Lake	9	4	1	8	7
	676	708	625	1172	508
	Total	Coots			
Lake Alice	940	256	280	1150	40
Brumba Lake	12	23	9	1130	40
Buffalo Lake	30	10	5		
Johnson Lake	24	2	29		
Lamb's Lake	48	31	30	150	
Little Goose Lake	8	2	9	3	
Pleasant Lake	120	13	7	100	
Rock Lake	318	42	130		
Sibley Lake	90	14	4		25
Silver Lake	32	34	182	100	
Snyder Lake	2		1	. spite	10
Wood Lake	16	17	98	30	11.70
	1640	444	784	1533	75

#### Aerial Brood Census

	1965	1966	1967	1968 (7/23)	1969 (7/16
	10				
Lake Alice	58	73	90	175	89
Brumba Lake	3	3	3	5	7
Buffalo Lake	7	18	14	21	18
Johnson Lake	4	18	12	15	13
Lamb's Lake	4	22	7	19	18
Little Goose Lake		3			2
Pleasant Lake	8	3	7	22	9
Rock Lake	13	21	23	53	31
Sibley Lake	5	46	16	24	19
Silver Lake	7	9	14	29	6
Snyder Lake	5	18	10	8	9
Wood Lake	_2	1	1	4	1
	116	235	197	375	222

## Hunting

Goose hunting was relatively poor around the easement refuges as compared with other years. With more water available during the fall the geese were more scattered. Many birds came through further west and stopped at Hurricane Lake. There was practically no goose hunting at Silver Lake and success was poor at Lake Alice. The traditional firing line along the Duck Road at Lake Alice was completely absent. The only heavy pressure and good success was in the Rock, Brumba, and Snyder Lakes area. The firing lines along the north and east sides of Snyder lake on October 20 were a wonder of poor sportsmanship. Even with officers in full view "sportsmen" did not hesitate to shoot at birds heading into the refuge.

#### Trapping

Interest was high with 28 trappers receiving permits to trap easement refuges. Their total harvest as of December 31 was 1773 animals. Three boys trapping on Lake Alice without permits were apprehended by GMA Blazevic and manager Goeke. They were mistakenly trapping with permission of landowner John Elsperger, using his permit. The boys were issued permits, Mr. Elsperger's hands were spanked, and the season continued without incident. Not one, but two albino muskrats were trapped by Mario Hoyt at Johnson Lake. It is not known if they were both caught at the same location.

# Summary of 1969 Trapping

	Trap- pers	Musk.	Mink	Wease1	Beaver	Skunk	Red Fox	Badger	Raccoon
Lake Alice	13	817	1			1	3		6
Buffalo L.	1		3	1		6	2		2
Johnson L.	8	194*	6	2			2	1	
Lamb's L.	1	26	2	2				1	
Rock L.	3	120	6	1	3		1	1	
Sibley L.	1	500	3	1		2	1		
Wood L.	11	46	9				1		
	28	1703	30	7	3	9	10	3	8

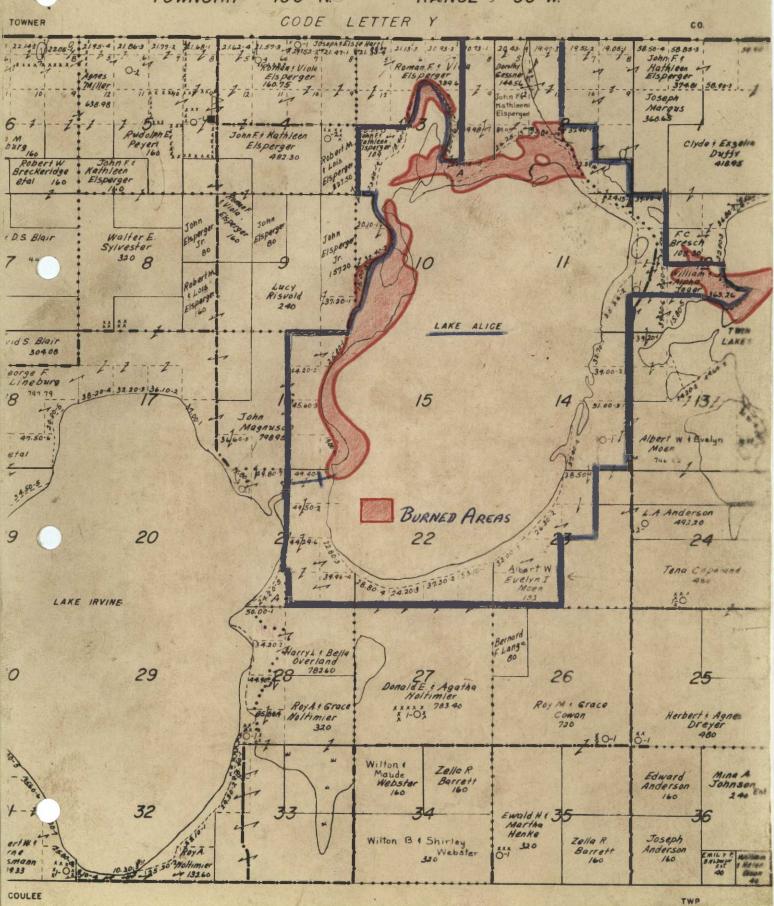
\* 2 Albino muskrats trapped by Mario Hoyt of Pekin, N.D.

# Burning

With the open fall heavy haze from the smoke of burning potholes was a commanaternoon occurrance. During the period November 28 to December 1 several hundred acres of marsh vegetation were burned at Lake Alice. Since the easements only concern the control of hunting and certain water rights, we have no control over this practice. Our only hope for saving this valuable winter cover is in our public relations program and early snow. The extent of burning on the other easement refuges is unknown.

# CHAIN LAKES

TOWNSHIP 156 N. RANGE . 66 W.



Submitted by:

David E. Goeke Refuge Manager March 16, 1970

Approved by:

Omer N. Swenson

Devils Lake Wetlands Management Office

Approved, Regional Office:

Date: 3-23-70

Regional Refuse Supervisor

1

# WATERFOWL

REFUGE Sullys Hall	Procervo		***		MONTH	s of	то	-App	
:			Week	s of repo	(2) orting	perio	o d		
(1) : Species :	1	2	: 3	: 1: :	: 6	: 7	: 8	: 9	: 10
Swans:  Whistling Trumpeter  Geese:  Canada Cackling Brant White-fronted Snow Blue Other  Ducks:  Mallard Black Gadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveler Wood Redhead Ring-necked Canvasback Scaup Goldeneye Bufflehead Ruddy Other									
Coot:									
Int. Pup. Sec., Wash., P. C. 37944									

Interior Duplicating Section, Washington, D.

# WATERFOWL (Continuation Sheet)

				763					7-7		713
(7) Total Production:	A summary	eeks	of r	(2) e p o	rtin	ng p	eri	o d	: (3) : Estimated	Prod	(4) uction
Species									: waterfowl		: Estimate : total
Swans: Whistling	A summary	of data									
Trumpeter	"FAS" or or	0 07000	all wants		1 1 1 1 1 1 1 1 1						
Geese:	sentative	preedin	E areas	Brook	Count	s shou	rg pe	nade on basis in	two or more are	omitte	egating 3.
Canada Cackling	TO PRINCIPAL	11/0/11/2017	oz Aonul	bacqu	ed bas	ed on	o production	ations s	nd actual count	a on re	DIRECT TO SERVICE STATE OF THE
Brant White-fronted	yastaBs a	copy). No	PAZELIO:	9 A 5/15	iner of	geha	Name of the	i for es	oh species.		
Snow											
Blue Other		CACLOCO	to galle	Doğullar	-ions						
Ducks:											
Mallard	Pries co.	arrana al			h	32	12	18	322		
Black		7.	-0100 01	local	वर्णते अस	riosal	airni	ficance.			
Gadwall	IN PROFIES	022 20 22	mindred in	13 51 50	THE PAR	n come	are spr	aces. 8	necial attentio	a shoul	d be
Baldpate Pintail							-	26	182	n Gravia	o The
Green-winged teal	VOCETONS (	Sec Boss	1887 9	harangh.	753).	147914	30	area File	TET STOREST VOTE)		
Blue-winged teal							310	20	70		
Cinnamon teal							ie .				
Shoveler								2	l.o.		
Wood					Panari	ad law		2			
Redhead							-				
Ring-necked Canvasback						4			*		
Scaup	Q(182).53				Dad nad	203 20	2	-	l/a		
Goldeneye							20	200	150		
Bufflehead											
Ruddy		- ,									
Other A. Merganser						10			70		
Coots: Tower Dave Dee 1	Peak Numbe	r : Tota	Produc	tion				20	110		
		11000			over)		13 1 100	United Section			

	(6) (7) Peak Number: Total Production	SUMMARY
Swans   Swans		Principal feeding areas Fort Tettes Bay
Ducks	268	Principal nesting areas
Coots :		Reported by
Creen-winged teal Blue-winged teal Cinnamon teal	TOURS OF STATE OF STA	752). 1413140 D 0 71 11 W
(1) Species:	In addition to the birds listed	7534, Wildlife Refuges Field Manual)  on form, other species occurring on refuge during the d in appropriate spaces. Special attention should be and national significance.
(2) Weeks of Reporting Period:	Estimated average refuge popular	tions.
(3) Estimated Waterfowl Days Use:		mber of days present for each species.
(4) Production:	sentative breeding areas. Brood	ded based on observations and actual counts on repre- ded counts should be made on two or more areas aggregating stimates having no basis in fact should be omitted.
(5) Total Days Use:	A summary of data recorded under	: (3).
(6) Peak Number:	Maximum number of waterfowl pres	sent on refuge during any census of reporting period.
(7) Total Production:	A summary of data recorded under	(4). ng period : Estimated : Froduction
REFUGE Sellys Hill Bress	105,49	MONTHS OF Jan TO Apr 19 69

Interior Duplicating Section, Washington, D. C.
(HEAD WELCH 1953 Controlled Total

# WATERFOWL

(1)			Week	of	repor	ting	perio	d		
Species	1	2	3	4	5	6	7	8	9	10
Swans: Whistling										
Trumpeter	100000000000000000000000000000000000000									
Geese:	-	NONE TO	DEDODT							
Canada		NONE TO	REPORT							
Cackling		No expense		THE PERSON				REMARKS THE		
Brant									Seral Marie	
White-fronted										
Snow										
Blue										
Other										
Ducks:									RETURNS OF	
Mallard	7	12	10	9	6	5	2	2	4	8
Black			MULTINSON	. 1		2				+-
Gadwall Baldpate	15	2	2	1	3	2				3
Pintail		2	2	1	3	3	2			2
Green-winged teal						3				
Blue-winged teal	9	4	6	2	6	4	6	6	10	6
Cinnamon teal	-				1				10	+ "
Shoveler			Ten manua				1	3	2	
Wood		4		1	1	1		1		
Redhead					Water Market					
Ring-necked										10
Canvas back				C. T. Service II.				2	3	
Scaup	100		80							
Goldeneye										
Bufflehead		00	0.0							
Ruddy		30	20		2				1	11
Other		4 102 2								-
Coots:	0	0	0	0	0	2	3	3	0	5
ddd:										

Interior Duplicating Section, Washington, D.

# WATERFOWL (Continuation Sheet)

REFUCE Sullys Hill NGP MONTHS OF May TO August , 19 69 (3) (4) Weeks of reporting period : Production : Estimated : waterfowl : waterfowl 12 : 13 : 14 : 15 : 16 : 17 : 18 : days use :Broods: Estimated (e) Pea(1) moer: daximum nu : seen : total Species Swans: A summary of date recorded unde Whistling Trumpeter NONE TO REPORT Geese: sentative preedl two or more areas ag Canada Cackling Brant White-fronted Snow Blue Boxerne Berrog: Other Ducks: 183 4,396 36 Mallard 102 160 13 15 19 12 59 Black Gadwall 134 2,282 1 10 80 73 2,555 Baldpate 75 100 14 9 140 32 3,059 Pintail 100 152 140 9 1 Green-winged teal Blue-winged teal 165 219 4,851 12 12 140 84 Cinnamon teal 3 18 Shoveler 2 45 15 896 4 Wood 21 Redhead 3 721 2 30 11 22 35 Ring-necked Canvasback 5 50 30 53 1,141 Scaup 1,260 Goldeneye Bufflehead Ruddy 12 4 10 65 1.575 80 3 15 Other (White-winged Scoter) Coots: Total Days Use : 5 3 3 2 29 220 330 750 9,485 over)

(5) Total Days Use:	(6) Peak Number	r : Total	Produc	tion	29	220	330	750	SUMMAI	SA9,485		
Swans (White-winged	coter)	3.5	ri-	212.5	Princi	pal fe	<b>edi</b> ng	areas	Ft. To	tten bay	(Devils	Lake)
Geese (Captive)	29		8						4			
Ducks 22,764	996	5	76		Princi	pal ne	sting	areas	Lake s	hore mead	wot	
coots 9.485 :	750	.3			90	77	- 55	- 58		721		
Cinnamon teal Shoveler		7	2	3	Report	ed by	Bob	Brown		896 21		
Oreen-winged test	TRUCTIONS (S	See Secs.	7531 t	hrough	7534,	Wildli	fe Ref	uges F	ield Ma	nual)	5	23
			CONTRACTOR OF STREET	-		1	4 5 0	4 7 70	-	2 050		
Mallard Black	In addition reporting given to t	period s	hould b	e adde	d in ap	propri	ate sp	aces.	Specia	1 attent:	ion shou	ld be 5
l) Species:	reporting	period s hose spe	hould b	e added	d in ap and na	propri	ate sp	aces. ficanc	Specia			
<ol> <li>Species:</li> <li>Weeks of Reporting Period:</li> <li>Estimated Waterfow Days Use:</li> </ol>	reporting given to t	period s hose spe average	hould b cies of refuge	e added local	d in ap and na tions.	propri tional	ate sp signi	aces. ficanc	Specia e.	al attent	ion shou	ld be 5
<ol> <li>Species:</li> <li>Weeks of Reporting Period:</li> <li>Estimated Waterfown Days Use:</li> <li>Production:</li> </ol>	reporting given to t Estimated	period s hose spe average : ekly population	hould b cies of refuge ulation f young areas.	e added local populate s x num produce Brook	d in ap and nations.  mber of ced bas d count	days ped on cos should	ete sp signi oresen observ	t for ations	Specia e. each sp and ac n two c	ecies.	nts on receas aggr	pre-
<ol> <li>Species:</li> <li>Weeks of Reporting Period:</li> <li>Estimated Waterfown Days Use:</li> <li>Production:</li> </ol>	reporting given to t  Estimated  Average we  Estimated sentative	period s hose spe  average : ekly population number of breeding	hould b cies of refuge ulation f young areas. g habite	e added local populates x nur produce Broodeat. Es	d in ap and nations.  The and tions.  The and to a and tions are a count at a	days ped on cos should	ete sp signi oresen observ	t for ations	Specia e. each sp and ac n two c	ecies.	nts on receas aggr	pre-
<ol> <li>Species:</li> <li>Weeks of Reporting Period:</li> <li>Estimated Waterfown Days Use:</li> <li>Production:</li> </ol>	reporting given to t  Estimated  Average we  Estimated sentative 10% of the	period s hose specification average : ekly population number or breeding breeding	hould b cies of refuge ulation f young areas. g habite	e added local popular s x nur product Brood at Es d under	d in ap and nations.  mber of ced bas d count stimate r (3).	days ped on cos should be having	oresen observed be	t for ations	Special e. each special and acondition two coin fact	ecies.  tual cour r more ar	nts on receas aggree omitte	epre- regating

Interior Duplicating Section, Washington, D. C.
1953 3-1750a Cont 1R-1 (Rev Merch 17323

MONTHS OF May TO August

# WATERFOWL

	AT THE STATE OF									
(1)			Week	s of	repor	ting	perio	o d		
Species	1	2	3	4	5	. 6	: 7	. 8	. 9	. 10
wans:										
Whistling	4						I de la companya del companya de la companya del companya de la co			-
Trumpeter ese:										
Canada										
Cackling										-
Brant								8572-0124		-
White-fronted										-
Snow								4		-
Blue										
Other	-		/ /							-
cks:										
Mallard	160	140	120	200	315	200	300	300	350	500
Black	200	240	220	200	313	200	300	300	1	1300
Gadwall	125	60	80	120	150	80	50	150	30	
Baldpate	130	80	120	200	150	200	150	60		
Pintail	120	40	20	30	20	20	20			
Green-winged teal	210	210	110	90	120	70	E Part of the second			
Blue-winged teal							C MINISTER			
Cinnamon teal										
Shoveler	10	20	60	210	400	30	80	150	1_000	1.00
Wood								NAME OF THE OWNER.		
Redhead	15	20	60	20	20	60	50			6
Ring-necked					THE REAL PROPERTY.					
Canvasback	30	20	40	10	20	20	40			
Scaup	25	50	100	60	200	300	420	530	1,225	43
Goldeneye	THE NAME OF								700	100
Bufflehead				E PARTIE SY				20	300	10
Ruddy	140	100	200	350	300	200	200	400	800	20
Other										
ot:	500	200	150	120		60	20	20	20	1 2

# (Rev March 1953) WATERFOWL (Continuation Sheet)

MONTHS OF September TO December , 19 69 REFUGE Sullys Hill MGP Weeks of reporting period : Estimated : Production (1) Species : waterfowl : Broods: Estimate : 11 : 12 : 13 : 14 : 15 : 16 : 17 : 18 : days use : seen : total : waterfowl : Broods: Estimated Swans: A summary of data recorded unde Whistling Trumpeter Geese: sentative breeding g areas s snou nade on two or more areas aggregating Canada Cackling Brant White-fronted Snow Blue borting Period: Other Ducks: 21,000 Mallard 20 400 Black 5,922 Gadwall Baldpate 7.616 1,911 Pintail Green-winged teal Blue-winged teal 5,670 Cinnamon teal Shoveler 24,948 600 Wood Redhead 10 2,205 Ring-necked Canvasback 1,274 23,870 Scaup 70 Goldeneye Bufflehead 2,940 Ruddy 20,482 40 Other Coots: Toral Days Days ET : Tota 7,616 over)

(5)	(6) (7)		
Cooper Total Days Use :	Peak Number : Total Production		SUMMARY
Swans Mone	90	Principal feeding areas	Fort Totten Bay
Geese None		and Sweetwater Lake	2,940
Ducks 117,845	3,706	Principal nesting areas	23,870
Coots 7,616 :	500		3 930
Blue-Winged teat Cinnamon teal Shoveler Wood	. 900 I	Reported by Irvin A. N	elson
Creen-winged teal	TRUCTIONS (See Secs. 7531 through	7534, Wildlife Refuges F:	ield Manual)
(1) Species:	In addition to the birds listed of reporting period should be added given to those species of local a	in appropriate spaces.	Special attention should be
(2) Weeks of			
Reporting Period:	Estimated average refuge populati	lons.	
(3) Estimated Waterfowl Days Use:			each species.
(3) Estimated Waterfowl Days Use: (4) Production:		per of days present for e ed based on observations counts should be made or	and actual counts on repre- to two or more areas aggregating
(3) Estimated Waterfowl Days Use: (4) Production:	Average weekly populations x numb  Estimated number of young produce sentative breeding areas. Brood	per of days present for end based on observations counts should be made or timates having no basis i	and actual counts on repre- to two or more areas aggregating
(3) Estimated Waterfowl Days Use: (4) Production:	Average weekly populations x number of young produce sentative breeding areas. Brood 10% of the breeding habitat. Est	per of days present for each based on observations counts should be made or timates having no basis in (3).	and actual counts on repre- two or more areas aggregating n fact should be omitted.

Interior Duplicating Section, Washington, D. C. (He / WEGD 1953 COM / WE-J 3-11208

REPUCE Sullys Mill MCP

WATERFOUL

MONTHS OF September TO Secenber 3, 19 69

# MIGRATORY BIRDS

(other than waterfowl)

SPRIN

Refuge Sally Kill Preserve Months of to 195.69

(1) Species	(2) First Seen	(3) Peak Numbers	(4) Last Seen	(5) Production	(6) Total
				Number   Total #   Total	Estimated
Common Name	Number Date	Number Date	Number Date	Colonies Nests Young	Number
I. Water and Marsh Birds:		IV. Predaceou	E teore (Colmonton		ence
B-e cornorant	12 k-30	12 1-30	Piggins (Millish for	(naradriiiormes)	15
B. kingfisher Dir	1 b-12	2 h-25	Marsh Blids (Gavida	de species of local and Water	ruikiormes)
tor	m, other spacies	docurring out ref	age during the repor	ting parted should be added	un appro-
Killgeer Ord	ore correct sores	8 h-20	11.0.U. Checklist,	1951 Edition, and list group in addition to the birds list	10
The state of the s		THETRY OF LONS	O II GM PERSON	337 E411 80 300 1201 4E00	in A.O.U.
			Reporte	pà-	***************************************
				Design A. Collons	
Refed. Innt	7 9-3	5 1-19			
II. Shorebirds, Gulls and	7 7-5	3-07			
Terns:					
R-b gall	1 1-6	30 1-38			40
Manylo	A TOTAL DATE THE	USD -			30
Frank. gull	20 h-25	20 1-25			36
IV. Predaceous Birds: Golden eagle					
IV. Predaceous Birds:					
White-winged dove					
Mourning dove	S 17-572	and the second			30
III. Doves and Pireons:					
(1)	(8)	(ove	(4)	(2)	19).

(over)

	(2)		(3)	(4)	(5)	(6)
2	1-15	8	1-25			20
rds:						
<u>- 45</u> .						
20	-9	- 50	F-25			30
6 10	inter Recid	ent				3.0
6	3-39	80	h=7			3.00
The and	3-21	1	3-21			1
1	1-7	2	4-38			4
					Treds A	
	dove rds:	dove	dove  rds:  A section of the contract of the c	dove  rds:  Braker Residuat  1 3-19 80 1-7	dove  .rds:  2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	dove  rds:

### INSTRUCTIONS

(1) Species:

Des Commission

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes

II. Shorebirds. Gulls and Terns (Charadriiformes)

III. <u>Doves and Pigeons</u> (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

Total: Estimated total amber of the species using the large during the period concerned.

INT .- DUP. SEC., WASH., D.C.

# MIGRATORY BIRDS (other than waterfowl)

Refuge Sullys Hill NGP Months of May

to August 195 69

53317

(1)	(2		(3	•		4)		(5)		(6)
Species	First	Seen	Peak Nu	mbers	Last	Seen		roduction	Total	Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Young	Estimated Number
Common Name	Number	Date	Number	Date	Number	Date	Colonies	Nests	loung	Number
I. Water and Marsh Birds:			TA . 120		TENE LAND	COUTTON	e' printly		a premed	0.000
		510	TATE - DOA	0.10		200001001	ion-l			
Double-crested cormorant	6	5/2	15	8/8	Still	Present	PULUGLIYA			X-1
Black-crowned night heron	2	5/9	6	7/11		( pratrace	THOR TO U		men nun d	norrectment.
Great blue heron	2	5/5	5	8/15	g be n tas	11 200	a sbecies		and make	Opins -
Belted kingfisher White pelican	3	5/9 6/23	25	7/6	25	7/6	THE DOLLE		pe added	rur abbie-
American egret	DE TWACK	5/5	-25	1/0	1	5/5	n. additi.		birds lie	red on
Western grebe	2	5/5	257	8/22		Present	931 E3111		tat group	70 V.0.05
Eared grebe	2	7/25	50	8/26	11	11				
Pied-billed grebe	ī	7/25	18	8/14	11	11				
						Reported	ра вор	Brown		
							3-1	Hadim		
	a sum a la								i s Mulis	
II. Shorebirds, Gulls and										
Terns:										
Ring-bill gulls	12	5/2	200	7/17	Still	Present				
Franklin's gull	15	5/2	1200	8/8	cox all	11				
Black tern	2	5/5	130	7/17	-11	7/25				
Common tern	1	5/5	35	7/17	11	11				
Killdeer Wax	2	7/4	2	8/26	"	11				
Lesser yellowlegs	10	7/4	100	8/14	11	11				
Spotted sandpiper	1	7/11	1	8/26	11	- 11				
Sora rail	1	7/11	1	7/11	1	7/11	12			
Avocet	1	5/5	1	5/5	1	5/5				- T- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
Hudsonian godwit	1	7/25	1	7/25	1	7/25				Description of the
Northern phalarope	300	7/25	300	7/25	85	8/14	200			
Wilson's phalarope	2	6/26	450	8/22	SCILL	Present				
					1					
(1)	13		(3)		13	1		(2)	THE RESERVE	(0)
				100001	-	-	and the same of the same of		-	

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons: Mourning dove White-winged dove  IV. Predaceous Birds: Golden eagle Duck hawk Horned owl Magpie Raven -Crow	2 5/6 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Common 2/32  I 1 2/3  I 2/3  I 3/32  I	Still Present	by Bob Brown	
Pied-billed grebs	11.75	170 0/174			

INSTRUCTIONS

Species:

White pelican

Beleat blue heron

Stack-crowned might heron

Bouble-created cormorant

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. <u>Doves and Pigeons</u> (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

Total: Estimated total amber of the species using the range during the period concerned.

INT.-DUP. SEC., WASH., D.C.

59317

# MIGRATORY BIRDS

(other than waterfowl)

Months of September to December

Refuge Sullys Hill NGP

196 69

Common Name	(1)	(2		(3			4)	<b>原题 1大点</b>	(6)		
Number   Date   Number   Date   Number   Date   D	Species	First	Seen	Peak Nu	mbers	Last	Seen				Total
Double-crested Cormorant   12   4-30   12   4-30   12   10-10									"		Estimate
Double-created Cormorant   12	Common Name	Number	Date	Number	Date	Number	Date	Colonies	Nests	Young	Number
Double-created Cormorant   12   4-30   12   4-30   12   10-10									Paane	ritormes)	
Black-crowned night Heron   2   5-9   6   7-11   4   8-26	I. Water and Marsh Birds:			IN BIG	Tarne one B	LEGS (KE)	CORLIGINA	S. Strigi	formes an	2 predace	STE CELL
Black-crowned night Heron   2   5-9   6   7-11   4   8-26	Dauble-constant Comment	12	4-90	ITT BOX	4-20	12	10-10	093			12
Select Blue Heron   1   5-5   6   9-5   1   10-24	THE RESERVE OF THE PROPERTY OF				The state of the s			hamadriid	379651		8
Belted Kingfisher  1 4-12 2 4-25 2 9-26 White Pelican 3 6-23 25 7-6 American Egret 1 5-5 1 5-5 Western Grebe 2 5-5 257 8-22 30 10-3  Eared Grebe 2 7-25 50 8-26 8 9-20 Pied-billed Grebe 1 7-25 18 8-14 12 9-26  I. Shorebirds, Gulls and Terns: Ring-bill Gulls 1 4-6 200 9-20 20 11-7 Franklin Gulls 20 4-25 40 9-26 20 10-24 Black Tern 2 5-5 130 7-17 30 8-26 Common Tern 1 5-5 35 7-17 10 9-20 Killdeer 6 4-12 8 4-20 6 9-20 Lesser Yellow Legs 10 7-4 100 8-14 3 10-10 Spotted Sandpiper 1 7-11 1 8-26 1 8-26 Avocet 1 5-5 12 7-17 Korthern Phalarope 300 7-25 300 7-25 300 7-25 Wilsons Phalarope 2 6-26 450 8-22 450 8-22				The second second		And the second s	The second secon	chies to U	iconfifer	nes saged	8
Mnite Pelican American Egret 1 5-5 1 5-5 1 5-5 American Egret 2 5-5 5 257 8-22 30 10-3 Eared Grebe 2 7-25 50 8-26 8 9-20 Pied-billed Grebe 1 7-25 18 8-14 12 9-26  I. Shorebirds, Gulls and Terms: Ring-bill Gulls 1 4-6 200 9-20 20 11-7 Franklin Gulls 20 4-25 40 9-26 20 10-24 Black Tern 2 5-5 130 7-17 30 8-26 Black Tern 1 5-5 35 7-17 10 9-20 Killdeer Common Tern 1 5-5 35 7-17 10 9-20 Killdeer 6 4-12 8 4-20 6 9-20 Killdeer 1 7-11 1 8-26 1 8-26 Avocet 1 5-5 12 7-17 12 7-17 Morthern Phalarope 300 7-25 300 7-25 300 7-25 Wilsons Phalarope 2 6-26 450 8-22 450 8-22  Wilsons Phalarope 3 4-20 4-25 40 Avocat 3 4-20 6 9-20 Common Tern C		THE RESERVE OF THE PERSON NAMED IN		THE RESERVE THE PROPERTY OF		MATERIAL PROPERTY AND ADDRESS OF THE PARTY AND		BIDGCTGH	of local	and Nati	4
American Egret 1 5-5 1 5-5 1 5-5		A STATE OF THE PARTY OF THE PAR						De Denie	B Showld	as andes	25
Nestern Grebe   2   5-5   257   8-22   30   10-3   22   30   30-3   30				All the management of the last				a addinan	n to kka		1
I.   Shorebirds, Gulls and   Terns:   Ring-bill Gulls   1   4-6   200   9-20   20   11-7   2,00   2   2   2   2   2   2   2   2   2		2		257	8-22	30	10-3	GEE 78,63 6 4	Sat China d		260
I. Shorebirds, Gulls and  Terns:  Ring-bill Gulls  1 4-6 200 9-20 20 11-7  Franklin Gulls  20 4-25 40 9-26 20 10-24  Black Tern  2 5-5 130 7-17 30 8-26  Common Tern  1 5-5 35 7-17 10 9-20  Killdeer  6 4-12 8 4-20 6 9-20  Lesser Yellow Legs  10 7-4 100 8-14 3 10-10  Spotted Sandpiper  1 7-11 1 8-26 1 8-26  Avocet  1 5-5 12 7-17 12 7-17  Northern Phalarope  300 7-25 300 7-25 300 7-25  Wilsons Phalarope  2 6-26 450 8-22 450 8-22			7-25		8-26	8	9-20				50
I. Shorebirds, Gulls and  Terns: Ring-bill Gulls  1 4-6 200 9-20 20 11-7  Franklin Gulls  20 4-25 40 9-26 20 10-24  Black Tern  2 5-5 130 7-17 30 8-26  Common Tern  1 5-5 35 7-17 10 9-20  Killdeer  6 4-12 8 4-20 6 9-20  Lesser Yellow Legs  10 7-4 100 8-14 3 10-10  Spotted Sandpiper  1 7-11 1 8-26 1 8-26  Avocet  1 5-5 12 7-17 12 7-17  Northern Phalarope  300 7-25 300 7-25 300 7-25  Wilsons Phalarope  2 6-26 450 8-22 450 8-22	Pied-billed Grebe	1	7-25	18	8-14	12	9-26				
II. Doves and Piscona:	I. Shorebirds, Gulls and Terns: Ring-bill Gulls Franklin Gulls Black Tern Common Tern Killdeer Lesser Yellow Legs Spotted Sandpiper Avocet Northern Phalarope Wilsons Phalarope	20 2 1 6 10 1 1 300	4-6 4-25 5-5 5-5 4-12 7-4 7-11 5-5 7-25	40 130 35 8 100 1 12 300	9-26 7-17 7-17 4-20 8-14 8-26 7-17 7-25	20 30 10 6 3 1 12 300	11-7 10-24 8-26 9-20 9-20 10-10 8-26 7-17 7-25				2,000 1,500 200 50 12 150 1 12 300 450

(1)		(2)		(3)	a a	(4)	Sec.	(5)	(6)
III. <u>Doves and Pigeons</u> : Mourning dove White-winged dove	2	4-15	8	4-25	6	10-24			20
Herchern Shelstope	200	3-32	2130	2-25	- Amg	7-25		THE REAL PROPERTY.	1 500
IV. Predaceous Birds:		1-11		34-25	- 13	37.12			75
Golden eagle Duck hawk	10	7-4	100	SHIN	3	10-10	7		FRO 200
Horned owl	2	Year ar	ound res	ident		3+30	1000		2
Magpie Raven	20		ound res		7-00	8+20		100	20
Crow	6	6-23	500	6-23		6-23			500
Bald Eagle	1	3-21	2	11-1	2	11-1			2
Red-T Hawk	1	4-7	4	4-25 5-5	1	10-24			4
Sparrow Hawk	i	6-6	2 2	7-25	2	7-25			2
WARP TALKATE ELECT		4,44	15/61	and the same of th	34.65	Reporte	d by		

### INSTRUCTIONS

(1) Species:

Becale-oresided dowycant Diepo-opened sight Hero

Waler and March Birds

**新年中的,到2000年** 

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ASSESSED BEINGER

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gavilformes to Ciconiiformes and Gruilformes)

II. Shorebirds. Gulls and Terns (Charadriiformes)

III. <u>Doves and Pigeons</u> (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

Total: Estimated total mber of the species using the range during the period concerned.

INT.-DUP. SEC., WASH., D.C.

forms should be used if

## UNITED STATES

(Rev. Nov. 1957) DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE

BUREAU OF SPORT FISHERIES AND WILDLIFE

for obtaining these

omitted. Refuge gr

spaces below the la

# WATERFOWL UTILIZATION OF REFUGE HABITAT

Reported by	wid E. Gooke	Title _			The second of	
(1)	(2)	SUIGBL	(3)	08487(4)	(5	1.
Area or Unit	Habitat	Dractl	management			,
Designation	Type Acreage	other		Population	Produ	ctio
GO THE TTO IC	estimated acreages	banten		restag		
detailed map a	A STATE OF THE PARTY OF THE PAR	Ducks	I was a well	bluode en		7
itst types of		Geese				10
tial report		Swans	2.700	(capmine-5)		
be submitted	The state of the s	Coots	30 000	for es		-
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			" holitor "	anoka	3	-
	Crops	Ducks				
h as cereals		Geese	include al	dirons	tet bial	/e
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	Water david Lubau I		us.Con tago	to Wor		
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	on Mon betainten y	le de legar	are as more more	Contract of the contract of th		
	Crops	Ducks	of each yes			
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	Water and has an	Coots	iing, the v			
emergent	Total a wolland to		r stable ma			
	- bes-vebeen ese age		stion type,			
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to strictly	Marsh	Geese	sted most o			
	Water		rom the dev			_
send bas dur			deep lak			
ys, sounds		TOUAL	VARL Geen	85281		
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gree with	Upland band		maki notite		DATE OF THE PARTY	1201
	Marsh . I-FIL HYOT A	- 30	ger notten			
	Water	Coots				
	Total	Total		20.00	Broad	(11)
don of each	deleged gelleerd is	Jos sul	To stants	as nA though	Popula	7 4
	Crops to asta done	Ducks	Tid to vio		and a t	537
	Upland	Geese				
flight age.	Marsh at aggov to	Swans	Ledod beda	mitted -makt	Dirinard.	(a)
	Water	Coots				
	Total	Total				

(over)

### INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 120-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

- (1) Area or Unit: At geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should be equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
- (2) Habitat: Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.
- (3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) Breeding
  Population: An estimate of the total breeding population of each category of birds for each area or unit.
- (5) Production: Estimated total number of young raised to flight age.

(cver)

Water

Refuge Months of to 194\_69

(3) (4) (1) (2) (5) (6) (7)Young Sex Species Density Removals Total Remarks Ratio Produced Number broods obs'v'd. Estimated Total For Restocking
For
Research Estimated Hunting Pertinent information not number Acres Cover types, total specifically requested. per using List introductions here. Common Name acreage of habitat Bird Refuge Percentage B-n pheasant Total cores 1.676 None seen Unknown 700 earns of u and timbered pasture. Remileder is open pesture YOUNG PRODUCED: Estimated and hayland molds wreads more sust beerd av. Jake 277 A STREET welly to wild turkey, 139.5 THEY WHITE THE REAL belief froger add guitub bevomer vergeled. alog the reluge curing the report period and ins those migration into the refuge during certain seasons, to determine population and area covered in survey. enir bonite bedsauper vilso fileen for noliswrole) Juneline was so himons because botton at of aldantique assurios vino + Tell . . .

Form NR-2 - UPLAND GAME BIRDS.\*

(1) SPECIES: Use correct common name.

(2) DENSITY:

d anoldouboron! Jaki

Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

<sup>\*</sup> Only columns applicable to the period covered should be used.

(April 1946)

Refuge Bil NOP

Months of\_

to

, 1940

(1) Species	(2) Density	Y	(3) oung duced	(4) Sex Ratio	Re	(5) emoval	Ls	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres Jacque No.	obs'v'd. Estimated Total	Percentage	Hunting	For Restocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
R-n pheasant	Total acres 1,674 700 acres of marsh and timbered pas-	are land, itsted in dayle are ample are cated und	a svide	reverting a ndard type a re possible, on represent ress should	Sta Sta I wha inte or a	objects	istai L'ie;	Unknown	None soun
punte	is open pasture and hayland.	rzaedo noq	based v	g produced, ng habitat.				Estimated in repres	(3) YOUNG PRODUCED:
S-tail groupe	is, etc. Include d	y, bheasa	d trustice	arily to wil	eProp Selat	eall vs 1		ego 6 100	None soen
Gray Partridge	the report period.				- 2			6	None seen aron (a)
in sessons.	port period. This refuge during certa	into the	ga lits 13	lus those mi	ī ap.	ild si		ri obuloni	
MISO	oquested.	sera bra n cifically	oitaluq aqı don	determine po information					(7) REMARKS:
			1880	ed bluchs be	1670	boh	e per	is of aldmo	enzioo vino *
rest									

Form NR-2 - UPLAND GAME BIRDS.\*

(1) SPECIES: Use correct common name.

(2) DENSITY:

Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

- (3) YOUNG PRODUCED:
- Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO:
- This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS:
- Indicate total number in each category removed during the report period.
- (6) TOTAL:
- Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS:
- Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

<sup>\*</sup> Only columns applicable to the period covered should be used.

Refuge Sullys Hill N.G.P.

Months of September to December , 194 69

				amen common d	narron asti	1875998 (1)
(1) Species	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks
Common Name	Cover types, total pe	Number broods obs'v'd.	Percentage	Hunting For Restocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
R-M Pheasant	Total acres 1,674, 8. 700 acres of marsh and timbered pasture. Remainder is open pasture and hayland.	37 banki sin oda odan serum PI is elimes vid u be sankbi k s	1 hen 1 cock	and tardwoods riej etu. St. 1d be usel wh na shd cojmte uple area or :	siq 2 med siq 2 med siq 7 .oM litarrando siq esta	
S-T Grouse	o Landon was smold 2	09	g produced, be ng habitet.	number of your ntative breedl	8	(3), YOUN'T PRODUCED:
Gray Partridge	sants, etc. Include d	39.5	arily to wild lo.	sing sellegs n felles 1 selles	equ senso	102TAS RES (4)
	ing the report period.	removed dur	pogedan dose	it midmum fato	Indicate	(5) REMOVALES
n sessons.	report period. This he refuge during certa	edf galund the	sing the reing Lus those mig	tobal number v eident birds g	Hetimated include m	(6) TOTAL:
onla	rea covered in survey. ly requested.	te bra molvali Lao Ricega de	determine post	of lear leade tenting rea	Indicate o	(7) FEMARES
		, lea	ed should be	savol bolteq a	oable to th	ensylvo vino *
£282						

Form NR-2 - UPLAND GAME BIRDS.\*

(1) SPECIES: Use correct common name.

(2) DENSITY:

Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

Refure - Sullys Mill M.C.F.

- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

<sup>\*</sup> Only columns applicable to the period covered should be used.

Refuge Sullys Hill

Calendar Year 1969

(1) § Species			(1) Removals			(5) Losses		In	(6) troductions	(7) Estimated Total Refuge Population		(g) Sex Ratio		
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter	Number	Source	At period of Greatest use	As of Dec.	
American Bison	700 A. enclosure. Timber on large rolling hills. Approx. 250 A. grass.	6	100 m	ony on this	6	cowe	io i	9 5 19/2 1940 17.88	the info	13 TE	changes ont then the de- chruce swam	37	31	
Elk southann	opic lestes of beard of blue Lymna to sale but bear bould	7			6		ot vi	1855 1855	ec. Pere Prese	100 100 100 100 100 100 100 100 100 100	u ed biwone Blaudo and	29	23	
W-T Deer		9	83		8*	omd	leá	ile	3	blu	de patia co	30	22	
	-03020	z no becki	1012	391	TAY.	to a	dies	<b>#</b>	ates	ia dat	Han : Onot	TOURS PROF	-(e)	
	d during the year.	evalor vi	1		ine	i di	ed:	estri.	Tesed	97.8	Ebal .	SELECTERS	(40)	
grand a	sessol lator etanfini metani	lan pidet				naer Lest	ga.	el TIS,	o sla gory	ed as	d no dose	1628807	(6)	
	which stock was secured.	Hori yace				nd ba	5 71	din	a eds	0 / 43	ibal :886	LECOUGOSTE	(8)	
e # 1	on the refuge at period of	k species			102	teluqi (Le b	100 I	n da	nltes bands	adi iest	evid :	DIR JATOR BOLTATION	(1)	
trom gort b	enimmedeb en seisege dose lo	females	)E5	tes	5.002	to eg	r d'ann	031	q sås	9205	IbaI	OFF RAPIC.	(8)	

Remarks: \*Donated to North Dakota Deaf School, Devils Lake, N. D.

Reported by Irvin A. Nelson

### INSTRUCTIONS

Refuge Scilles Mill

"Donated to Morth Dekota Deaf School, Devils Lake, M. D.

# Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisians white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
  - (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.

Seported by Invin A. Melson

- (4) REMCVALS: Indicate total number in each category removed during the year.
- (5) LCSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE
  POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIC: Indicate the percentage of males and females of each species as determined from field observations or through removals.

# Best possible image.

# REPORT ON BIG-GAME ANIMALS

# UNITED STATES DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE

Refuge: Sullys Hill			Dat	e: Januar	y 1, 1970	
The following is in the number of animals du to January 1, 19	ring the					
Losses and gains	Buffalo	Elk	Deer	Longhorns	Antelope	Sheep
TOTAL Jan. 1 , 19 69	31	22	25		1 1 1 1 1	
IOSSES - Dead: Natural causes						
Accidents Sales	6	6	3			
Donated	and the same of th		8	The state of the s		
LOSSES - Live:						
Sales						
GAINS: Births	6	7	9	ed to establish		
Gifts						
TOTAL Jan. 1 , 19 70	31	23	22	COA MAN TO THE PARTY OF T		Sime Villa

REMARKS:

Signature	
Title:	

3-1754	1
Form 1	-4
(June	1945

### SMALL MAMMALS

Refuge Sallys Hill Preserve Year ending April 30, 1969 Form NR-4 - SMALL MANMALS (Include date on all

Species	(2) Density			Removal					ion of		ORTOR	ap /	Tot
of Worth	white-tailed jackrabbl	jutrrel.	e z d	rrei.	Some	TB	Share	Trapp	ing	Refuge Shipped	Donated	ধ	Por
	Cover Types & Total  Acreage of Habitat	Acres Per Animal	Hunting Bur	Harvest Predator	For Restocking	For Re-	Permit Number	Trappers Share	Refuge share	Total Re-	Furs Don	Fure Destroyed	<b>t</b> 10
lood chunk and o	167h aures	instant of the same of the sam	ed is	in acr	bessed beca	dza s	d of vil	Dens					12
access i access	Maber & grasslands	Cound on	t, pe e seat	cover t be r	lose i	ree i	informa	numb this					20
furnish del	be detailed enough to			Cover but no	types.			the the					4
osket gopher	reverting agriculture of the symbols is the symbols is the symbols is the symbols.	, 039	airie	upian ng ses	7		nardwoo.	Land				*	30
ottomtell  triped skunk	ne and counts on repre-	oliavise	do is		seed o	l be	fuods be	gmae					25
led fox	ry removed since April	ogetao n	r eac	r vede			tated un			:8	JAVOI	EE (	6
bey squirrel	of removed since April of the base of the state of the st	g sur no	neria	1 Acre.	anthul:	ni .	tous year	F836					30
en by Service e of unprime er agencies	Predator Animal Hunte	ten of i	hippe listo Nurs	100	number number	numb lotal ged c	oute the	Indi pers	AUL E	MOIS	SPOST	Ia (	50

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested. TOOBIL

Reported by \_\_\_\_\_\_

ear ending April 30, 1859 (June 1945) Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

SMALL MAMMALS

(1) SPECIES:

(5)

Istor

nold

Managhtion of Mara Species Use correct common name. Example: Striped skunk, spotted skunk, shorttailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

3-1754

(1)

(2) DENSITY:

Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) REMOVALS:

Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headingslisted.

(4) DISPOSITION OF FUR:

On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided. List removals by Predator Apinal Hunte

(5) TOTAL POPULATION:

Estimated total population of each species reported on as of April 30.

REMARKS:

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested. 116007 ish and Wildlife Service Branc of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Cultivated Crops Grown	Share	Harvested Bu./Tons		Government' arvested Bu./ Tons	Unha	or Return rvested Bu. /Tons	Total Acreage Planted	Cover a	Manure, and Water- rowsing Crops and Kind	Total Acreage
Barley	20 mid to Tehnim emia end ni betsi Tetot troned moldsvitipo Tebn	800 bu. Shi gairub beharing ik sqoro be be a smori adulate a crop resulta to shi kind a trades of the kinds o	10 16 Square fire thought - 16 Square grant five thought - 16 Square fire thought - 16 Square fi	400 big and dynord includes of eid 400 and etamides agono van to gning and represent the standard to gning the standard to gning the standard that the sta	Herma - Harvested Show the sore	report topacco, and hely, which shoulders to feeted by send the feeted excursors topacco, and hely, which shoulders of larm crops harvested by the feeted excursors.	q lo selbrager boing gnifrager eq eno sadt enom yd beinsig need a compart yn benidm benidm gnifrager ol benidm yn besifidu zeros lo tedmundet yln	vinuos eno nadi enom al stole Fallow	Ag. Land.	30 SHILL BELLEVILLE SOLUTION OF SOLUTION O
o. of Permittee	Stand A	gricultura	al Opera	ations	1 are	Haying Op	erations _	<b>3</b> 0	razing Operat	ions N
	10 2	150								
ay - Improved Specify Kind)	To Harve	ested	Acres	Clatsh/ Rletvletrible/	Gra		mber Al mals	The second secon	cenue ACF	EAGE
ay - Improved	The second secon	ested 0 0 0 0	90 80 40 40 43		Gra  1. Catt  2. Othe	Ani le	mals			EAGE

# DIRECTIONS FOR PREPARING FORM NR--8' CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only thenumber of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvesed column.

<u>Total Acreage Planted</u> - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops Specify the acreage kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under <u>Cultivated Crops</u>, and perennial hay should be listed in the same manner at time of planting

Total Refuge Acreage Under Cultivation Report total land area devoted to agricultural purposes during the year.

# REFUGE GRAIN REPORT

(1) VARIETY*		On Han	D RECEIVED	(4) TOTAL		GRAIN DI	5) SPOSED OF	(6) On Hand	(7) Proposed or Suitable Use*			
V ARIETY*		OF PERIO	DURING PERIOD	TOTAL	Transferred	Seeded	ed Fed	Total	End of Period	Seed	Feed	Surplus
Barley		250	400	650	•	•	350	350	300		300	Bone
Corn		60	grand of Scott	60	caun sang	ped is, des	30	30	30	en con-	30	None
		(a) MP		Maga: "Maa	ednations.	SERVINGSTY, C.			Course of Market			
		(8) NE		station for	spilolist :	md geogyn						
			pit die for se	ding new or	200							
		41), 119		ed break-tow	o ph assi	sies of gra		a colsiun 6.	Indicate 11	grain is		F
		(0) (0)	-									
	- '-			nood pasemen. 18 E and S.							53	
		(2) KS	The second second	received dus	INE NELIGO	questi eg e		th as transfe	ar egrate into	Guerou		
		1 0	por rounter	Justage sur	gestage	Review to ad		great seeds a	m es papaj e	= 348-9°		
			A not suffice	as appoint a	interior pre	necessary	in conside	squa pupus	्रम् अक्ट्र स	bingus 10.		
		16 11 61	yb in corn, gr	Compete Div	ago sok p	neme, entre un		DESIGNATIONS, NOTHING OF THE PARTY OF THE PA	press made.	egaria anda		
		(1) Lis			stely and	speriorally,	as fliat e	ern, Fellow d	ent com, so	sere desd		
	TOINE	60 Ib.	n compati	R Augmus of	grantaries,	multiply th		abenta (cu. f)	o pa o g pais	OKE		
		barier-	-FO Ib., rys	55 lbg oats-	1000	y beans—6		86 80 Jb.,	Gishese - Qu	To, and.		
		shall b	pilitery or ore	aguivalent in	A inishel	Corn (st		The com for	EUSTRIBLE MA	STATE OF	V TE	

(8)	Indicate shipping or collection	points .	cover all grain	du pang	received	or disposed	and har	ion commen	H.	 
						MATERIAL PROPERTY.				

<sup>(9)</sup> Grain is stored at Preserve Eqs.

<sup>(10)</sup> Remarks \*See instructions on back.

# REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

ANNUAL REPORT OF PESTICIDE APPLICATION

Refuge

# Sullys Hill NGP

Proposal Number Reporting Year 1969

INSTRUCTIONS:	Wildlife	Refuges	Manual.	secs.	3252d,	3394b	and	3395.

I	NSTRUCTIO	NS: Wildlife Refuges M	1, 4, 3	1909					
	Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	and	Method of Application
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	June	Poison Ivy & Nettle	Sullys Hill recreation area	spot	Agsco Brush Kill 2 lb. 2,4-D Isoctyl ester/gr 2 lb. 2,4,5-T I	1.	2 lbs/acre		hand spraye:
٠.	Mid-Jun	Field Bindweed	Sullys Hill Unit II cropland	30	2,4-D Dimethylan Salt 4 lb. a.i./		1 lb/acre	5 gal/acre	ground sprayer
3.	Late Ju	e Leafy Spurge	Pleasant Lake WPA (Carl Anderson Tract)	95	2,4-D Isoctyl e 6 lb. a.i./gal.		2 lb/acre	5 gal/acre	ground sprayer

<sup>10.</sup> Summary of results (continue on reverse side, if necessary)

5. Stopped seed production, but did not affect plant.

<sup>1.</sup> Good results.

Good results.



Refuge Manager, Dave Goeke, transferred to Sullys Hill in September from Sherburne, NWR.



Biological Technician, Irvin Nelson, tending his flocks. This gets to be a pretty chilly job, especially on days when the temperature never climbs above 15 or 20 below zero.



Two Devils Lake youths drove around a locked gate, up onto Sullys Hill, and then down the north slope into the trees. They thought they were following a trail. Note the "trail" in the foreground of the photograph.



This car was driven by a local 15-year-old Indian boy (no license and none required of Indians on reservation) who was taking out his frustrations behind the wheel. As he came speeding around the lake (15 mph limit) he lost control, hit an oak tree, and spun around. No one was hurt, but if the tree hadn't been there he would have gone into the lake.



Our 5-year-old bull hogging more than his share of grain-molasses cubes. These cubes save us a great deal of time and effort during the fall disposal. The animals are attracted by the cubes and we can pick our animals as they eat - not a very pleasant job with a herd this small.



THE END

(from our 6-year-old bull)

# WATERFOWL

	The Property of							144		
(1)			Week	s of	repor	ting	perio	d		
Species	1	2	3	4	5	. 6	7	. 8	9	: 10
Swans:									İ	1
Whistling Trumpeter			1019			Burnett .				+
eese:										
Canada										
Cackling			-28							
Brant										
White-fronted										-
Snow										
Blue										
Other										
icks:		4 X								-
Mallard	160	140	100	000			000	000	0.50	
Black	160	140	120	200	315	200	300	300	350	500
Gadwall	105	(0)	00	100	150	- 00	- 50	150	1	
	125	60	80	120	150	80	50	150	30	
Baldpate	130	80	120	200	150	200	150	60		
Pintail	120	40	20	30	20	20	20			-
Green-winged teal	210	210	110	90	120	70				
Blue-winged teal								The same of the sa		-
Cinnamon teal										
Shoveler	10	20	60	210	400	30	80	150	1,000	1.00
Wood			g mark the					1 Date of		
Redhead	15	20	60	20	20	60	50			- 6
Ring-necked		Maria Salah								
Canvasback	30	20	40	10	20	20	40			
Scaup	25	50	100	60	200	300	420	530	1,225	43
Goldeneye				1				Contract Con	200	1
Bufflehead								20	300	10
Ruddy	140	100	200	350	300	200	200	400	800	20
Other										
oot:	500	200	150	120	V D	60	20	20	20	+ <sub>2</sub>

Cont. NR-1 (Rev. March 1953)

# WATERFOWL (Continuation Sheet)

V e e k s		14 :		16		18	days use	Prod Broods seen	(4) uction : Estimat : total
of date	13	14 :	(3)	16	17	18	: days use	seen	Tog total
p preedi		F4 15	3-2mm1-0	deys deys s show		nade on	ch species.	as aggr	
	refice Fileda	Brood	and na done her of ed bee	days days ad on ad on a bayd		nade on	ch species.	as aggr	
	ender of	Proof	and ne	deyre deyre		nade on	ch species.	as aggr	
20		local	and on some	deys	opeens		ch species.		
20		Joseph Je	ong us	deys	aigni	Ficance			
20		Josej Josej	and ne	Monel	aimi	Ficance			
20		local local	and ne	fonel	aigmi	Ficance	21,000		
20	enden of	popular Tooni	and pe	fonel	ed god	Ficance	21,000		
20	etenid i	a adde	and ne	-fonal	el god	ri cance	21,000		
20	eponjy j	o adde	and na	fonel	ed gmd	Ficance.	21,000		
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	elemild i	a adda	in ap						
	- bange			wastaya i	ate sn	aces, 8	5,922	a shoul	d be
	1	3 4 3	on for	n oth	BA BUG	Man one	7.616	a durin	g the
Toka near	x 155m		4 20 20 30				1,911		
1	9591 4	pranty a tup	vsah	441414	Pa Raf	Lines We	id Manual)		
							5.670		
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			Beport	og ph	7 44	B V No	24,948		
-			-				2,205		
							- 1203		
							1,274		
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							2,940		- 4
			LIGHT	107 60	TOTAL PROPERTY.	Mage T	20,482		
er : Tota	Produc	tion				8	7,616		
֡֡֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜	er : Tots	er : Total Produc	er : Total Production	Lote Production (over)				24,948  2,205  1,274  23,870  2,940  20,482  7,616	24,948  2,205  1,274  23,870  2,940  20,482  7,616

Total Days Use: Peak Number: Total Production  Swans None:			(Ones)
Geese None :			SUMMARY 'PTO
Ducks 117,845 : 3,706 : Principal nesting areas  Coots 7,616 : 500 :  INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)  (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.  (2) Weeks of Reporting Period: Estimated average refuge populations.  (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.  (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (5) Total Days Use: A summary of data recorded under (3).  (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.  (7) Total Production: A summary of data recorded under (4).	Swans None :	40	Principal feeding areas Fort Totten Bay
Ducks 117,845 : 3,706 : Principal nesting areas  Reported by Irvin A, Nelson  Reported by Irvin A, Nelson  INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)  (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.  (2) Weeks of Reporting Period: Estimated average refuge populations.  (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.  (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (5) Total Days Use: A summary of data recorded under (3).  (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.	The state of the s		and Sweetwater Lake
Reported by Irvin A. Nelson  INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.  (2) Weeks of Reporting Period:  Estimated average refuge populations.  (3) Estimated Waterfowl Days Use:  Average weekly populations x number of days present for each species.  (4) Production:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (5) Total Days Use:  Maximum number of waterfowl present on refuge during any census of reporting period.  Maximum number of waterfowl present on refuge during any census of reporting period.  Total Production:  A summary of data recorded under (4).	Ducks 117.845 :		TITHCIPAL HESCHING ALEAS
Instructions (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.  (2) Weeks of Reporting Period:  Estimated average refuge populations.  (3) Estimated Waterfowl Days Use:  Average weekly populations x number of days present for each species.  (4) Production:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (5) Total Days Use:  A summary of data recorded under (3).  Maximum number of waterfowl present on refuge during any census of reporting period.  Total Production:  A summary of data recorded under (4).	Coots 7,616 :	500 :	
INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.  (2) Weeks of Reporting Period:  Estimated average refuge populations.  (3) Estimated Waterfowl Days Use:  Average weekly populations x number of days present for each species.  (4) Production:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (5) Total Days Use:  A summary of data recorded under (3).  (6) Peak Number:  Maximum number of waterfowl present on refuge during any census of reporting period.  Total Production:  A summary of data recorded under (4).	Cinnamon teal Shoveler	900	Reported by Irvin A. Nelson
(1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.  (2) Weeks of Reporting Period:  Estimated average refuge populations.  (3) Estimated Waterfowl Days Use:  Average weekly populations x number of days present for each species.  (4) Production:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (5) Total Days Use:  A summary of data recorded under (3).  (6) Peak Number:  Maximum number of waterfowl present on refuge during any census of reporting period.  (7) Total Production:  A summary of data recorded under (4).	Green-winged teal	TRUCTIONS (See Secs 753) through	7534 Wildlife Refuges Field Manual)
Days Use:  Average weekly populations x number of days present for each species.  (4) Production:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (5) Total Days Use:  A summary of data recorded under (3).  (6) Peak Number:  Maximum number of waterfowl present on refuge during any census of reporting period.  (7) Total Production:  A summary of data recorded under (4).	<ul><li>(1) Species:</li><li>(2) Weeks of</li></ul>	reporting period should be added given to those species of local	d in appropriate spaces. Special attention should be and national significance.
sentative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (5) Total Days Use: A summary of data recorded under (3).  (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.  (7) Total Production: A summary of data recorded under (4).	The state of the s		mber of days present for each species.
(5) Total Days Use: A summary of data recorded under (3).  (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.  (7) Total Production: A summary of data recorded under (4).	Geese:	sentative breeding areas. Brood	d counts should be made on two or more areas aggregating
(7) Total Production: A summary of data recorded under (4).		A summary of data recorded under	r (3).
(7) Total Production: A summary of data recorded under (4).	(6) Peak Number:	Maximum number of waterfowl pres	
REPOSE SULLY MAL	(7) Total Production:	A summary of data recorded under	
MOWTHS OF September TO December , 19	REFUGE Sullys Hill NGP	101	MONTHS OF September TO December , 19 6

3-1751 Form NR-1A (Nov. 1945)

# MIGRATORY BIRDS

(other than waterfowl)

Refuge Sullys Hill NGP

Months of September to December 195 69

(1)	(;	2)	(3	3)	•	4)		(5)		(6)
Species	First	Seen	Peak Nu	umbers	Last	Seen		Production		Total
							Number	Total #	Total	Estimated
Common Name	Number	Date	Number	Date	Number	Date	Colonies	Nests	Young	Number
								Passe	riformes)	
I. Water and Marsh Birds:		10,1514	IV. PES	Jacsous, F	irds (Fal	coniforme	s, Strigi	formes an	d predace	ous
			III. Dox	es and P	geons (Co	THEFTON	99)			
Double-crested Cormorant	12	4-30	12	4-30	12	10-10	paradrii:	orwes)		12
Black-crowned night Heron	2	5-9	6	7-11	4	8-26	rmes to 0	iconiifor	mes and (	8 = 2
Great Blue Heron	are 1000	5-5	6	9-5	pel Stas	10-24	0 3000108	of loom!	and Nati	8 4
Belted Kingfisher	100	4-12	2	4-25	2	9-26 7-6	ing perio		be added	25
White Pelican	3	6-23 5-5	25 1	7-6 5-5	25 1	5-5	n add1 1.10		birds lis	-
American Egret Western Grebe	1 2	5-5	257	8-22	30	10-3	952 Edit.	on, and 1	ist group	260
Eared Grebe	2	7-25	50	8-26	8	9-20				50
Pied-billed Grebe	1	7-25	18	8-14	12	9-26				7
Fled-billed Grebe	1	1-25	10	0-14	12	3-20	pa			
II. Shorebirds, Gulls and  Terns: Ring-bill Gulls Franklin Gulls Black Tern Common Tern Killdeer Lesser Yellow Legs Spotted Sandpiper Avocet Northern Phalarope Wilsons Phalarope	1 1 20 30 2 3 1 6 10 1 1 300 2	4-6 4-25 5-5 5-5 4-12 7-4 7-11 5-5 7-25 6-26	200 40 130 35 8 100 1 12 300 450	9-20 9-26 7-17 4-20 8-14 8-26 7-17 7-25 8-22	20 20 30 10 6 3 1 12 300 450	11-7 10-24 8-26 9-20 9-20 10-10 8-26 7-17 7-25 8-22				2,000 1,500 200 50 12 150 1 12 300 450
								(2)		(8)
				(over)						

(1)	1 /	n \	,	7)		4)		(5)	(6)
(1)		2)		3)		4)		(5)	(6)
III. Doves and Pigeons:									
Mourning dove	2	4-15	8	4-25	6	10-24			20
White-winged dove		6-26	450	8-22	450	0			120
Northern Phalarope	300	7-25	300	7-25	300	7-25 8-22			300
Avocet	ī	5-5	12	7-17	12	7-17			300
IV. Predaceous Birds:	T	7-11	J	8-26	7	8-26			T
Golden eagle	10	7-4	100	8-14	3	10-10			150
Duck hawk Horned owl	2	4-15	8	4-20	6	9-20			12
Magpie	20		und resi		30	9-20			2 20
Raven	150	6-23	1	6-23	10	6-23			1,100
Rin Crowl Gulls	6	3-19	500	10-8	10	12-2			500
Bald Eagle	1	3-21	2	11-1	2	11-1			2
Red-T Hawk	1	4-7	4	4-25	1	10-24			4
Marsh Hawk	1	4-20	2	5-5	1	10-10			2 2
Sparrow Hawk	1	6-6	2	7-25	2	7-25			2
			To the state of		3.		122		
Fied-billed Grebe		1-40		O-Teb		Reporte	d by		
perce crops		1-12		32-14		10000			

#### INSTRUCTIONS

(1) Species:

Bouble-crested Cormorant

Western Grebe

Great Blue Heron

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National Prock-Gaussian Holding Measignificance. Groups: I. Water and Marsh Birds (Gavilformes to Ciconilformes and Gruilformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

Peak Numbers: The greatest number of the species present in a limited interval of time.

Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

Estimated total number of the species using the refuge during the period concerned. (6) Total:

INT .- DUP. SEC., WASH., D.C.

\*

(0)

Refuge Sullys Hill N.G.P. Months of September to December , 194 69

					comme	r gennes de	liss corres	(1) SPROTES:
(1) Species	(2) Density	n al be	(3) Young Produced	(4) Sex Ratio	R	(5) emovals	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd. Estimated Total	Percentage	Hunting	For Restocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
R-N Pheasant	Total acres 1,674, 700 acres of marsh and timbered pastu Remainder is open pasture and haylan	re.	ricelture embols lis Figures active samp to tadicat	1 hen 1 cock	aboda Sta I what Inta	and hardwards, etc. It's to be use inc. Inc. and co	grame pres grame pres grame pres No. 7 sho observation size of s	
S-T Grouse	ations and actual c	209	oasel upon	g produced,	thee's	number of	8	(3) YOUNG PRODUCED:
Gray Partridge	is, etc. Include d	139.5	t turkey,	arily to will	ilaq Isli	seller n va l sel	12	(A) SEX RATIO:
	the report period.		pevomer C	each catego	al m		Indicate	(5) REMOVALS:
ay in seasons,	port period, This refuge during certa	on edd odd od		ter ent gain	I sp.	total numb sident bir	Setimated include r	tJATOT (6)
Also	covered in survey.		a not wile ict ipscif	oq.enimadeb neldamadien	os	ethod used her pertin	Indicate :	(7) REMARKS:
			. 1680	ed bluoda be	revo	ë period e	is of eldas	* Only columns appli
1613								

Form NR-2 - UPLAND GAME BIRDS.\*

(1) SPECIES: Use correct common name.

(2) DENSITY:

Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

efter Sullys Hill N.G.P.

- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

<sup>\*</sup> Only columns applicable to the period covered should be used.

Refuge Sullys Hill

Calendar Year 1969

(1) Species	(2) Density	(3) Young Produced			nove (jt)	als			(5) sses	In	(6) troductions	(7) Estimated Total Refuge Population		(g) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re-	Sold	For Research	Predation	Disease	Winter	Number	Source	At period of Greatest use	As of Dec.	
American Bison	700 A. enclosure. Timber on large rolling hills. Approx. 250 A. grass.	6	in the same	os os stat	6	red b	io : ioi:	AUT I	eds olnt bnsi	d to	opo wagoada ab adi duli abwa apunga ulang asan	37	31	
Elk	tado lauton no beend ed blue lamas to exte bus been boilto	7	fare + B	# 10 T	6	10000	of h	eos ata	bere prese	ed a	should be used counts	29	23	
W-T Deer	"	9	21	1245	8*	ibau ,	30.31	oži	3	blu	de seste to	30	22	
	.ogolo	no beau	107	30	you	20 1	i d'am	g .	5203	19.7.61	MART - East	YOURG PROT	(5)	
	d during the year,	MOUST AX	30	tea	108	ant.	indi	10.05	Lates	200	ibal	EMSCYALS:	(4)	
st	encacl lates established establ	tee eldat	isa	20	e fre Edel	per the	301	10 T	sis o	वर्ष का एस है।	done	Posses	(5)	
	which stock was secured.	sout tons	jà	co e	gradi.	er ba	1 33	don	e edj	oża	ibal : 280	TADOGOSTAT	(a)	
## £	to believ is equipt edd no	h species	100	lo o e	tol	also d al	(a) (a)	19.34 19.00	mliac buuda	the test	erio live	OTULITAÇOR	(5)	
mort b	of each species as determine	sofasol	7.03.0	se f	148	10 03	n it eric	ST	the p	sint	ibal	SEX RATIC:	(8)	Ä

\*Donated to North Dakota Deaf School, Devils Lake, N. D.

Reported by Irvin A. Nelson

### INSTRUCTIONS

### Form NR-3 - BIG GAME

2

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisians white-tailed deer.
- DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
  - (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.

Reported by Tryln A. Nelson

- (4) REMCVALS: Indicate total number in each category removed during the year.
- (5) LCSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE
  POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIC: Indicate the percentage of males and females of each species as determined from field observations or through removals.

\*Donated to Morth Dakota Deaf School, Devila Lake, M. D.

3-1758
Form NR-8
(Rev. Jan. 1956)

# Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Sullys	s Hill P	reserve	9 1d ,Q	County	Benso	n bagge	S	tate	North Dakota	
Cultivated Crops Grown		ttee's Harvested Bu./Tons		overnment's rvested Bu./ Tons	Unha	or Return arvested Bu. /Tons	Total Acreage Planted	Cove fow:	en Manure, er and Water- l Browsing Cr e and Kind	
Barley	20mid te vennem emas and ni betail	nsee and gninub bednesq in equip bednesd as and it was not attract quip and it was not the kinds of improvess a second se	Tipega agoro maisero [fe trogal - E	the eldslieve mista to aledaud to the head end dyword iwoltestaw of eldsi to end ed eldsi to e	requirer. Onustacested Show the screen	nereal, tobacce, and hay, which should thon, tobacce, and hay, which should thon, tobacce, and hay, which should	energe anoung be anown muser of bullons and partitue burboses. So the partitue burboses and a second beautiful burboses and a second beautiful burboses. So the partitue beautiful burboses and a second beautiful beaut	Fall	Land . So the called and some country of the called and the called	NATERNOCEDES - HAXING - GEVEING BOOM NE-8:
No. of Permittees	<b>2</b> A	gricultura	ol Opera	tions Refuge Sh	100	Haying O	perations _	3	Grazing Op	erations None
Hay - Improved (Specify Kind)	To Harve	ested	Acres	Idelehide			umber A	UM*S	Cash Revenue	ACREAGE
Alfalfa Alf-brome Alf-Native Native Brome	70 3 2 1 4	0	90 80 40 40 43	20 86 = = = = = = = = = = = = = = = = = =	1. Catt	and the	N ni squid	CHILIAS	troger fis	
					1. Tota	l Refuge A	creage Unde	r Cult	tivation	30
Hay - Wild					2. Acre	age Cultiv	ated as Ser	vice (	Operation	riest rello

30

Operation

Service

03

bedsviding

ACTERES

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only thenumber of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvesed column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops Specify the acreage kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting

Total Refuge Acreage Under Cultivation Report total land area devoted to agricultural purposes during the year.

an and Wildlife Service

# REFUGE GRAIN REPORT

191.-000. DEC., NASH., D.C. 17069

(1)	On Ha	ND RECEIVED	(4)		GRAIN D	(5) ISPOSED OF		(6) On Hand	Proposi	(7) ED OR SUITAB	LE USE*
VARIETY*	BEGINN of Per		TOTAL	Transferred	Seeded	Fed	Total	END OF PERIOD	Seed	Feed	Surplu
Barley	250	400	650	-	-	350	350	300		300	None
Corn	60		60	rain ship propused.	and in, dex	30	30	30	on con-	30	None
	(a) /A)	lere stored on 1	nfuga: "Hea	dasticte	tranary, s	100					
	(8) M	arest railroad	station for	gripping t	and receiving	8.			14.77		
			ding new or			1 - 15					
	(7) Th		d break-dow	A BY YERR	dies of gra	in listed I	a column 6.	Indicate if	grain is		
	(6) C <sub>0</sub>	3									
	(4) A		s 2 and 8,								
	(a) R	The second secon	received dut	ms benier	PLOW MI I	pareds, su	th as trunsi	s, share cru	Dmg or		
		TERROR TO FREEDRA	include only	domestic	Rigne ! co	स्मार्थंड अग्रवास	idier seeds v	ill be listed o	0 MR-9		
		with not suffice	us apecide o		necessary	en conside		n of seed as	oplies to		
		ango usw era	cowpens, mil	ado soy-b	sans, etc.	Nere list	ding wheat, ag as corn,	prose nullet, wheat, and	eybeans eybeans		
	(1).11	typical corol gr	grant separ met wheat,	stely and ed May w	specifically, neat, durur			ent corn, sq.	2.0		
	nixe — ou le		d Animus or		multiply th	e cubic co	itenta (cu. f	.) by 0.8 bus	pols.		
	o ib, barles		55 lb., cats	-30 lb., so	y beans-0	0 lb., mil		ambem 00			
	orain shall	on grant in but	quivalent to	e purpose	Corn (so	clied) —5(	ontowing and	echapate we er) To lb.,			
3	TERROLES CONTRACTOR	a report,	Tests that it	N/ BITTER							
) Indicate shipping	ng or collect	ion noints									
) Grain is stored											

<sup>.\*</sup>See instructions on back.

Properve Hos.

(U) Gram is stored at

### REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

300

DECEMPSI

Refuge

## Sullys Hill NGP

Proposal Number Reporting Year

1. 4. 5 1969

## ANNUAL REPORT OF PESTICIDE APPLICATION

	INSTRUCTIO	NS: Wildlife Refuges M	anual, secs, 3252d, 3394b and	3395.			1, 4, 5	1969	
	Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	June	Poison Ivy & Nettle	Sullys Hill recreation area	spot	Agsco Brush Kill 2 lb. 2,4-D Isoctyl ester/ga 2 lb. 2,4,5-T I	1.	2 lbs/acre	½ pt./3 gal.wate: spot trea	
4.	Mid-Jun	Field Bindweed	Sullys Hill Unit II cropland	30	2,4-D Dimethylar Salt 4 lb, a.i./	nine 8 gal.	1 lb/acre	5 gal/ac	re ground sprayer
5.	Late Ju	e Leafy Spurge	Pleasant Lake WPA (Carl Anderson Tract)	95	2,4-D Isoctyl es 6 lb. a.i./gal.		2 lb/acre	5 gal/ac:	e ground sprayer

<sup>10.</sup> Summary of results (continue on reverse side, if necessary)

<sup>1.</sup> Good results.

<sup>4.</sup> Good results.

<sup>5.</sup> Stopped seed production, but did not affect plant.